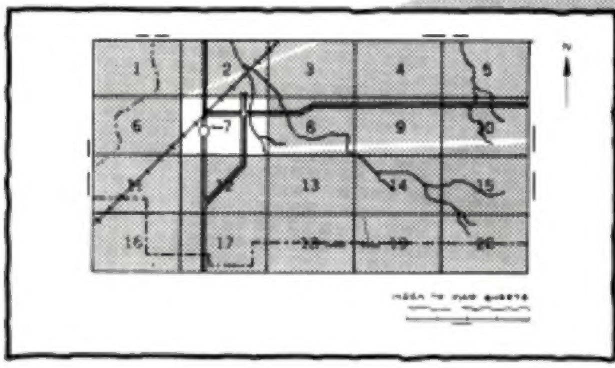
United States
Department of
Agriculture

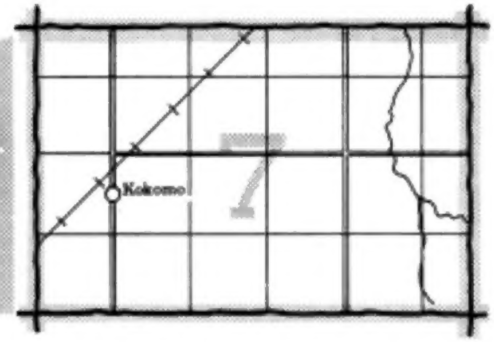
In cooperation with
Vermont Agricultural
Experiment Station and
Vermont Agency of
Environmental Conservation

Soil Survey of Windham County Vermont

HOW TO USE

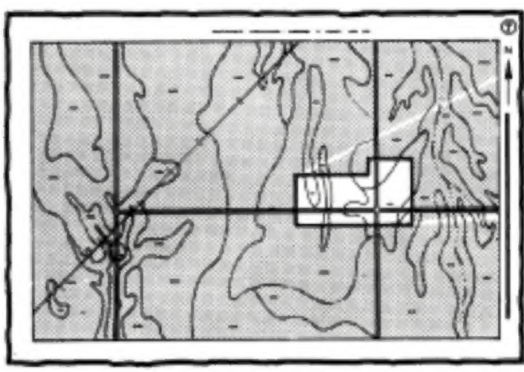
1. Locate your area of interest on the "Index to Map Sheets"

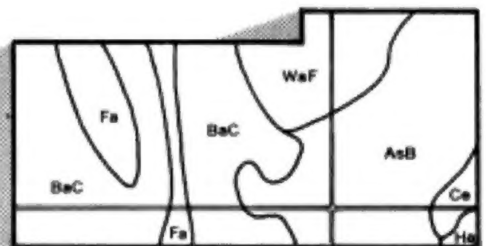




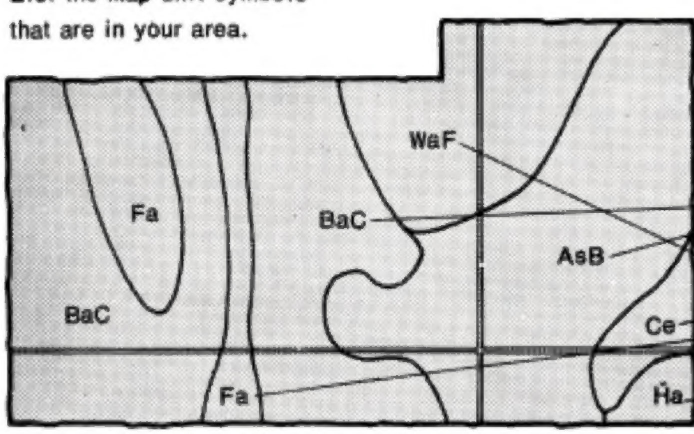
2. Note the number of the map sheet and turn to that sheet.

3. Locate your area of interest on the map sheet.





4. List the map unit symbols that are in your area.



Symbols

AsB
BaC
Ce
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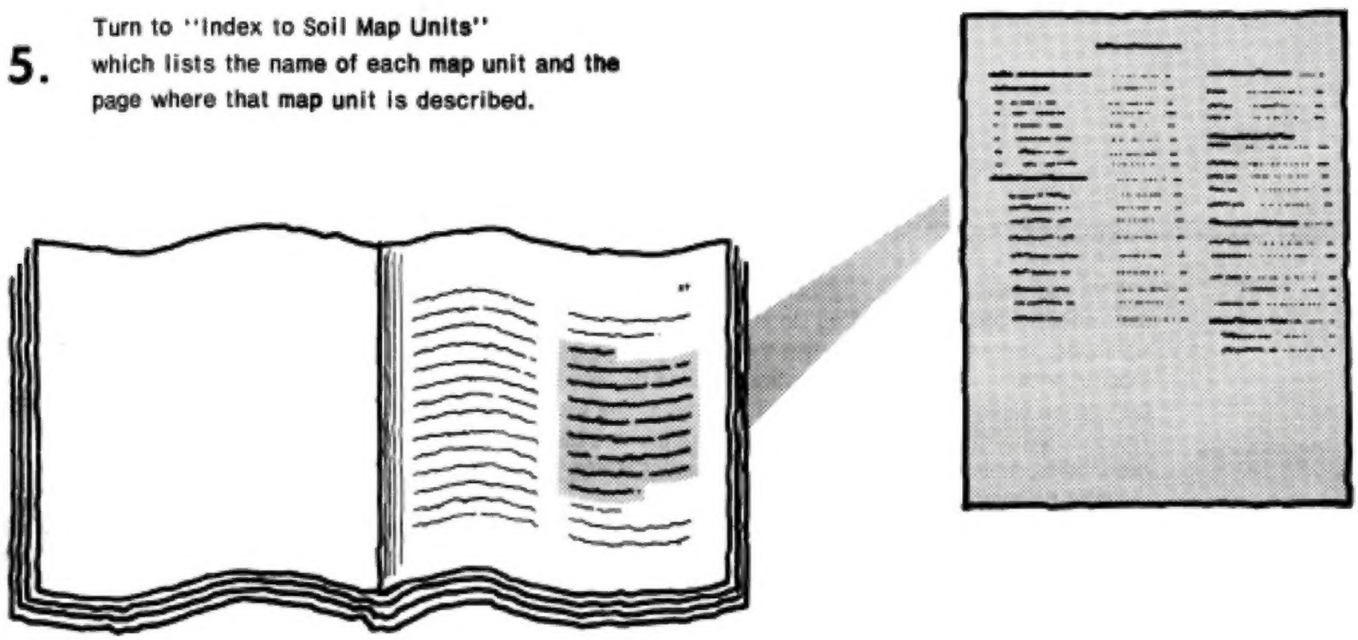
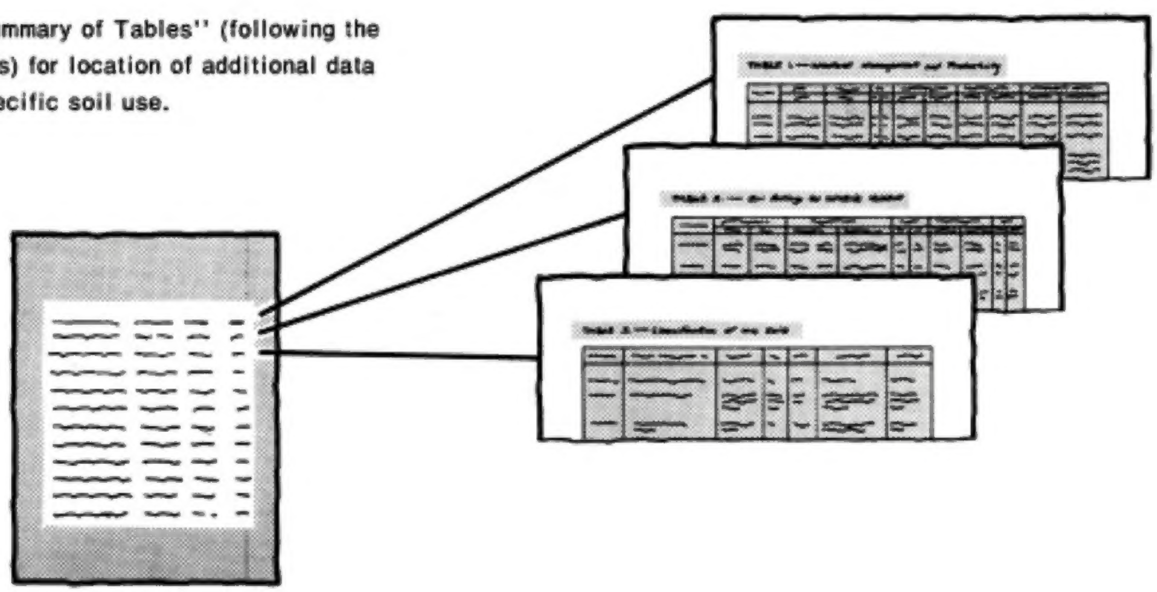
THIS SOIL SURVEY

5. Turn to "Index to Soil Map Units" which lists the name of each map unit and the page where that map unit is described.



6. See "Summary of Tables" (following the Contents) for location of additional data on a specific soil use.



7. Consult "Contents" for parts of the publication that will meet your specific needs. This survey contains useful information for farmers or ranchers, foresters or agronomists; for planners, community decision makers, engineers, developers, builders, or homebuyers; for conservationists, recreationists, teachers, or students; to specialists in wildlife management, waste disposal, or pollution control.

This soil survey is a publication of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other federal agencies, state agencies including the Agricultural Experiment Stations, and local agencies. The Soil Conservation Service has leadership for the federal part of the National Cooperative Soil Survey. In line with Department of Agriculture policies, benefits of this program are available to all, regardless of race, color, national origin, sex, religion, marital status, or age.

Major fieldwork for this soil survey was completed in 1982. Soil names and descriptions were approved in 1983. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 1982. This survey was made cooperatively by the Soil Conservation Service and the Vermont Agricultural Experiment Station and the Vermont Agency of Environmental Conservation. The survey is part of the technical assistance furnished to the Windham County Natural Resources Conservation District. Part of the funding for this survey was provided by the Vermont Agency of Environmental Conservation.

Soil maps in this survey may be copied without permission. Enlargement of these maps, however, could cause misunderstanding of the detail of mapping. If enlarged, maps do not show the small areas of contrasting soils that could have been shown at a larger scale.

Cover: Dairy farm in an area typical of the Tunbridge-Marlow-Lyman general soil map unit.

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Soil Series

Issued February 1987

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Summary of Tables

Foreword

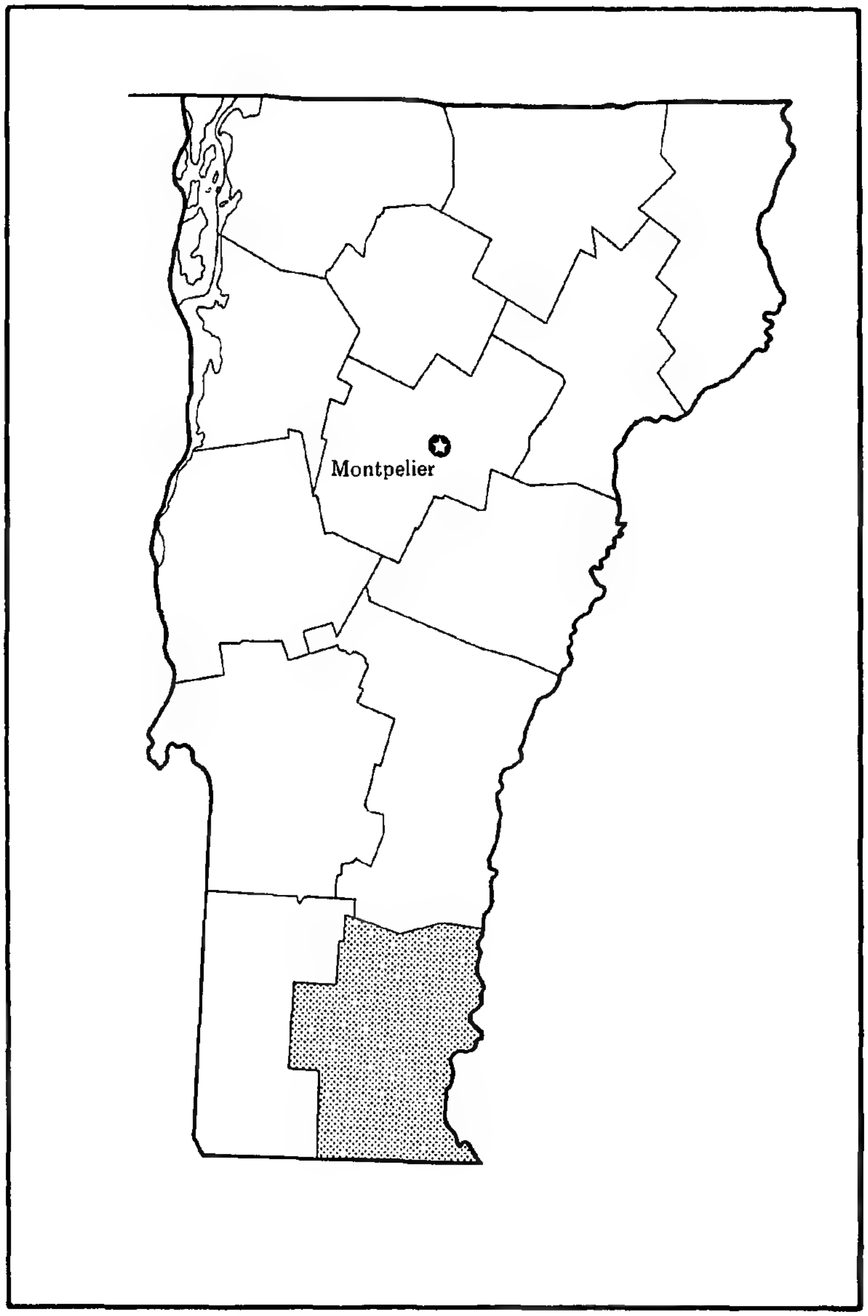
This soil survey contains information that can be used in land-planning programs in Windham County. It contains predictions of soil behavior for selected land uses. The survey also highlights limitations and hazards inherent in the soil, improvements needed to overcome the limitations, and the impact of selected land uses on the environment.

This soil survey is designed for many different users. Farmers, foresters, and agronomists can use it to evaluate the potential of the soil and the management needed for maximum food and fiber production. Planners, community officials, engineers, developers, builders, and home buyers can use the survey to plan land use, select sites for construction, and identify special practices needed to ensure proper performance. Conservationists, teachers, students, and specialists in recreation, wildlife management, waste disposal, and pollution control can use the survey to help them understand, protect, and enhance the environment.

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are shallow to bedrock. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

These and many other soil properties that affect land use are described in this soil survey. Broad areas of soils are shown on the general soil map. The location of each soil is shown on the detailed soil maps. Each soil in the survey area is described. Information on specific uses is given for each soil. Help in using this publication and additional information are available at the local office of the Soil Conservation Service or the Cooperative Extension Service.

John C. Titchner
State Conservationist
Soil Conservation Service



Location of Windham County in Vermont.

Soil Survey of Windham County, Vermont

By Wilfred J. Sheehan, Soil Conservation Service

Soils surveyed by Wilfred J. Sheehan, J. Andrew Adam,
Carl T. Britt, Stephen H. Gourley, Michael J. Linenberger, and
David L. Yost, Soil Conservation Service, and
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Vermont Agency of Environmental Conservation

United States Department of Agriculture, Soil Conservation Service
In cooperation with
Vermont Agricultural Experiment Station and
Vermont Agency of Environmental Conservation

WINDHAM COUNTY is in the southeastern part of Vermont. The area of the county is about 793 square miles, or 507,520 acres. Newfane, in the central part of the county, is the county seat.

About 90 percent of the land area in the county is used as woodland, about 6 percent is used for dairying and other farm enterprises, and about 4 percent is urban, or built-up, land.

This soil survey updates the soil survey (reconnaissance) of Vermont published in 1930, which contained information about the soils in Windham County (*6*). This survey updates the earlier soil survey. It provides additional information and larger scale maps that show the distribution and extent of the soils in greater detail.

General Nature of the Survey Area

This section provides general information about Windham County. It discusses climate, history and development, farming, industry, and transportation. The survey also describes the physiography, geology, and drainage of the survey area.

Climate

Prepared by the National Climatic Center, Asheville, North Carolina.

In Windham County, winters are cold and summers are moderately warm and have occasional hot spells. Mountains are markedly cooler than the main agricultural areas in the low-lying areas. Precipitation is well distributed throughout the year and nearly always adequate for all crops. Winter snows occur frequently, occasionally as blizzards, and cover the ground much of the time.

Table 1 gives data on temperature and precipitation for the survey area as recorded at Bellows Falls in the period 1951 to 1980. Table 2 shows probable dates of the first freeze in fall and the last freeze in spring. Table 3 provides data on length of the growing season.

In winter the average temperature is 22 degrees F, and the average daily minimum temperature is 12 degrees. The lowest temperature on record, which occurred at Bellows Falls on January 22, 1961, is -25 degrees. In summer the average temperature is 68 degrees, and the average daily maximum temperature is 80 degrees. The highest recorded temperature, which occurred on July 19, 1953, is 102 degrees.

Growing degree days are shown in table 1. They are equivalent to "heat units." During the month, growing

degree days accumulate by the amount that the average temperature each day exceeds a base temperature (40 degrees F). The normal monthly accumulation is used to schedule single or successive plantings of a crop between the last freeze in spring and the first freeze in fall.

The total annual precipitation is 40 inches. Of this, 23 inches, or 56 percent, usually falls in April through September. The growing season for most crops falls within this period. In 2 years out of 10, the rainfall in April through September is less than 20 inches. The heaviest 1-day rainfall during the period of record was 3.71 inches at Bellows Falls on July 1, 1976. Thunderstorms occur on about 25 days each year, and most occur in summer.

The average seasonal snowfall is 77 inches. The greatest snow depth at any one time during the period of record was 38 inches. On an average of 55 days at least 1 inch of snow is on the ground. The number of such days varies greatly from year to year.

The average relative humidity in midafternoon is about 60 percent. Humidity is higher at night, and the average at dawn is about 80 percent. The sun shines 60 percent of the time possible in summer and 45 percent in winter. The prevailing wind is from the south. Average windspeed is highest, 11 miles per hour, in spring.

History and Development

The first permanent settlement on record in Vermont was Fort Dummer. Built in 1724 in what is now Brattleboro, the fort was named in honor of Sir William Dummer, Lt. Gov. of Massachusetts.

In 1766 the New York legislature established Cumberland County, which included the areas of present-day Windham and Windsor Counties in Vermont. In 1781 the Vermont legislature established the boundaries of Windham County in Vermont.

Before settlement, the county was used mainly as hunting grounds by the Iroquois and Algonquin Indians. Indian picture writings are on rocks, or petroglyphs, are discernible along the Connecticut River and the West River.

In 1980 the population of Windham County was about 36,933. The population had grown by 3,457 since 1970. There are 23 towns in the county. In 1980 the population of Somerset, the smallest town in terms of population, was 2, and that of Brattleboro, the largest town, was 12,000.

The main population centers are along the river valleys, which are the location of water supplies, major highways, and the most productive soils. Since 1970 the number of vacation homes in the county has increased by 26 percent. This has resulted in a significant increase in the population of the smaller towns.

Farming

In 1880 the land use pattern in Windham County was highly diversified, according to an inventory of agriculture of that time. There were more than 3,200 farms on approximately 301,000 acres. There were large stocks of cows, sheep, horses, swine, and oxen. The main agricultural products were wool, meat, butter, and cheese. The main crops were barley, buckwheat, corn, oats, rye, wheat, hay, hops, potatoes, tobacco, and fruit.

In 1978 there were 271 farms on 64,513 acres. Of this total, 28,100 acres was used as cropland. The average size of an individual farm was 238 acres.

Dairy farming is the main agricultural enterprise. The number of dairy farms has steadily decreased, but the number of cows has recently increased. Fluid milk, the main agricultural product, is shipped mainly to Boston and New York. Vegetables, fruit, and maple syrup also are important.

In 1946 the Windham County Natural Resource Conservation District was formed to assist landowners in controlling soil erosion and pollution.

Industry and Transportation

In addition to agriculture, forest products, manufacturing, commerce, tourism, and services make up the economic picture. The major natural resource of the county is forestland, which provides lumber, pulp, and firewood for many buisinesses in the area. In manufacturing, printing, paper, and electronic products are important.

Windham County is accessible to the metropolitan areas in the Northeast via Interstate 91, which runs north and south, parallel to the Connecticut River. U.S. Route 5 and Vermont Route 100 run north and south, and Vermont Routes 9 and 30 run east and west. Commercial bus service is available along major highways.

Freight service is provided by the Central Vermont, the Boston and Maine, and the Green Mountain Railroads. Daily passenger rail service, which is available at Bellows Falls and Brattleboro, links Windham County to the major metropolitan areas in the Northeast.

Physiography, Geology, and Drainage

Windham County is divided about equally into three physiographic sections: the Green Mountains, the Green Mountain Foothills, and the Vermont Piedmont. The Green Mountains are part of the Adirondack, Green, White, and Berkshire Mountains. They are in the Green Mountain section of the New England province. The Green Mountain Foothills and the Vermont Piedmont are in the New England Upland section of the New England province.

The Green Mountains are part of the mountain range that runs north-south throughout central Vermont. They lie along the entire western edge of Windham County. The landscape of steep ridges and mountain peaks and narrow stream valleys is very rugged.

The Green Mountain Foothills lie in the south-central part of the county. At one time they were part of a large plateau. The plateau itself was reduced by glaciation and by dissection by streams to a rugged landscape of hills, ridges, and numerous stream valleys. The Vermont Piedmont lies within the northeastern and extreme southeastern parts of the county. Part of the same plateau as the Green Mountain Foothills, it has a gentler landscape.

The highest elevation in the county is 3,936 feet, at the summit of Stratton Mountain, in the northwestern part of the county. The lowest elevation is approximately 200 feet, along the Connecticut River at the Vermont-Massachusetts state line.

The soils in Windham County formed in material that was laid down directly by the last glacier or indirectly by the action of streams and the existence of ice-dammed lakes. Present-day streams carry some of this glacial debris downhill and redeposit it as alluvium.

Glaciation in the county generally resulted in the deposition of till on uplands, of outwash sand and gravel by glacial streams in valleys, and of silts and very fine sands as the glacier receded in ponds and lakes that resulted from ice dams.

The complex pattern of bedrock in the county consists almost entirely of highly metamorphosed igneous and sedimentary rocks. In a few scattered areas the bedrock is igneous. The regional metamorphism and the different types and complex pattern of bedrock indicate the occurrence of several episodes of sedimentation, mountain building, and volcanic activity.

Bedrock in the Green Mountains consists mainly of quartzite, gneiss, and schist. It is part of the basement complex that underlies most of New England. Bedrock in the Green Mountain Foothills and the Vermont Piedmont consists mainly of slate, limestone, phyllite, and schist in formations that generally run north and south.

Windham County lies almost entirely within the Connecticut River watershed. Drainage in the northern and eastern parts of the county is generally southeasterly into the Connecticut River. The main waterways in these parts of the county are the West River, the Williams River, the Saxtons River, and Whetstone Brook. Drainage in the southern and central parts of the county is southerly into the Connecticut River in Massachusetts. The main waterways in the southern and central parts are the North River, the Green River, and the Deerfield River. The northwestern corner of the town of Stratton is in the Hudson River watershed.

How This Survey Was Made

This survey was made to provide information about the soils in the survey area. The information includes a description of the soils and their location and a discussion of the suitability, limitations, and management of the soils for specified uses. Soil scientists observed the steepness, length, and shape of slopes; the general pattern of drainage; the kinds of crops and native plants growing on the soils; and the kinds of bedrock. They dug many holes to study the soil profile, which is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed. The unconsolidated material has few or no roots or other living organisms and has been changed very little by other biologic activity.

The soils in the survey area occur in an orderly pattern that is related to the geology, the landforms, relief, climate, and the natural vegetation of the area. Each kind of soil is associated with a particular kind of landscape or with a segment of the landscape (fig. 1). By observing the soils in the survey area and relating their position to specific segments of the landscape, a soil scientist develops a concept, or model, of how the soils were formed. Thus, during mapping, this model enables the soil scientist to predict with considerable accuracy the kind of soil at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, acidity, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. The system of taxonomic classification used in the United States is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

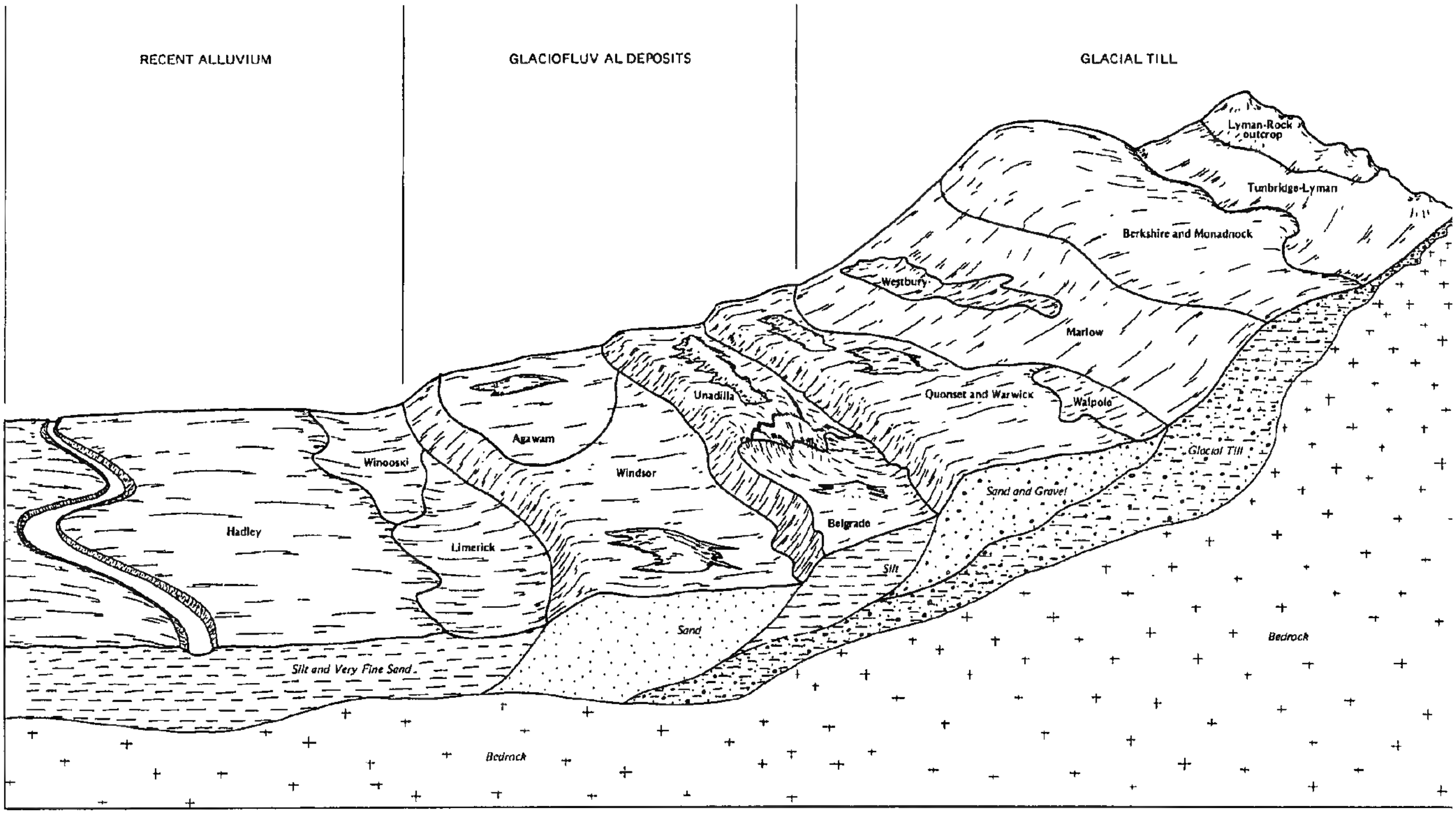

Figure 1.—Typical landscape pattern of several soils and underlying material in Windham County.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpreted the data from these analyses and tests as well as the field-observed characteristics and the soil properties in terms of expected behavior of the soils under different uses. Interpretations for all of the soils were field tested through observation of the soils in different uses under different levels of management. Some interpretations are modified to fit local conditions, and new interpretations sometimes are developed to meet local needs. Data were assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management were assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can state with a fairly high degree of probability that a given soil will have a high water table within certain depths in most years, but they cannot assure that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Map Unit Composition

A map unit delineation on a soil map represents an area dominated by one major kind of soil or an area dominated by several kinds of soil. A map unit is identified and named according to the taxonomic classification of the dominant soil or soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural objects. In common with other natural objects, they have a characteristic variability in their properties. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic

class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of soils of other taxonomic classes. Consequently, every map unit is made up of the soil or soils for which it is named and some soils that belong to other taxonomic classes. These latter soils are called inclusions or included soils.

Some inclusions have properties and behavioral patterns similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting (similar) inclusions. They may or may not be mentioned in the map unit descriptions. Other inclusions, however, have properties and behavior divergent enough to affect use or require different management. These are contrasting (dissimilar) inclusions. They generally occupy small areas and cannot be shown separately on the soil maps because of the scale used in mapping. The inclusions of contrasting soils are mentioned in the map unit descriptions. A few inclusions may not have been observed and consequently are not mentioned in the descriptions, especially where the soil pattern was so complex that it was impractical to make enough observations to identify all of the kinds of soil on the landscape.

The presence of inclusions in a map unit in no way diminishes the usefulness or accuracy of the soil data. The objective of soil mapping is not to delineate pure taxonomic classes of soils but rather to separate the landscape into segments that have similar use and management requirements. The delineation of such landscape segments on the map provides sufficient information for the development of resource plans, but onsite investigation is needed to plan for intensive uses in small areas.

General Soil Map Units

The general soil map at the back of this publication shows broad areas that have a distinctive pattern of soils, relief, and drainage. Each map unit on the general soil map is a unique natural landscape. Typically, a map unit consists of one or more major soils and some minor soils. It is named for the major soils. The soils making up one unit can occur in other units but in a different pattern.

The general soil map can be used to compare the suitability of large areas for general land uses. Areas of suitable soils can be identified on the map. Likewise, areas where the soils are not suitable can be identified.

Because of its small scale, the map is not suitable for planning the management of a farm or field or for selecting a site for a road or building or other structure. The soils in any one map unit differ from place to place in slope, depth, drainage, and other characteristics that affect management.

Soil Descriptions

1. Quonset-Windsor-Warwick

Very deep, gently sloping to very steep, excessively drained and somewhat excessively drained soils that formed in gravelly, sandy, and loamy glaciofluvial deposits; on stream terraces and in other outwash areas

This map unit makes up about 5 percent of the county. The map unit is about 26 percent Quonset soils, 22 percent Windsor soils, 15 percent Warwick soils, and 37 percent minor soils.

Quonset and Windsor soils are excessively drained. Warwick soils are somewhat excessively drained. Quonset, Windsor, and Warwick soils are on terraces, some of which are dissected by drainageways, and in other outwash areas, including the tops of knolls, hills, and ridges. Slope in this map unit is dominantly 2 to 15 percent, but ranges from 2 to 70 percent.

Typically, the surface layer of Quonset soils is very dark grayish brown fine sandy loam. The subsoil is dark yellowish brown gravelly sandy loam and very gravelly loamy sand. The substratum is olive brown and grayish brown gravelly sand.

Typically, the surface layer of Windsor soils is very dark grayish brown loamy fine sand. The subsoil is olive brown loamy fine sand and light olive brown fine sand. The substratum is olive and olive gray sand.

Typically, the surface layer of Warwick soils is dark brown very gravelly loam. The subsoil is dark brown very gravelly loam, dark yellowish brown very gravelly loam, and light olive brown very gravelly coarse sandy loam. The substratum is olive very gravelly loamy coarse sand.

The minor soils are the well drained Unadilla soils on terraces and on the tops and upper side slopes of knolls, hills, and ridges; the well drained Agawam soils on terraces and upland outwash plains; the moderately well drained Deerfield and Belgrade soils on terraces, on back slopes, and in slight depressions on upland plains; the poorly drained Walpole soils in depressions and drainageways and on toe slopes; and the well drained Hadley soils, the moderately well drained Winooski soils, and the poorly drained Limerick soils on flood plains.

In most gently sloping areas, the soils in this map unit have been cleared and are farmed. The main crops are corn silage and hay. The other crops are vegetables and small fruit. The steep and very steep areas are generally wooded.

In the gently sloping and strongly sloping areas, these soils are suited to cultivated crops, hay, and pasture. In the steep and very steep areas, they are generally not suited to these crops. Erosion is a hazard. The low available water capacity is a management concern.

The potential productivity for trees on these soils ranges from moderate to very high, depending on the species. The rate of seedling mortality is a management concern. In the moderately steep to very steep areas, erosion is a hazard and the equipment limitation is a concern.

There are few limitations to use of these soils as sites for dwellings. In some strongly sloping to very steep areas, excavation is needed to prepare nearly level building sites.

The poor filtering capacity is the main limitation to use of these soils as sites for septic tank absorption fields. If these soils are used as sites for septic tank absorption fields, the ground water can be contaminated because these soils readily absorb effluent but in most areas do not adequately filter it.

2. Colton-Adams-Podunk

Very deep, nearly level to very steep, excessively drained to moderately well drained soils that formed in cobbly, gravelly, and sandy glaciofluvial deposits and in loamy alluvium; on stream terraces, in other outwash

areas, and on flood plains

This map unit makes up about 3 percent of the county. The map unit is about 47 percent Colton soils, 13 percent Adams soils, 13 percent Podunk soils, and 27 percent minor soils.

Colton soils are gently sloping to very steep and excessively drained. Adams soils are gently sloping to very steep and excessively drained to well drained. Colton and Adams soils are on terraces, are dissected by drainageways, and are in other outwash areas, including the tops of knolls, hills, and ridges. Podunk soils are nearly level and moderately well drained. They are on flood plains. Slope in this map unit is dominantly 0 to 15 percent, but ranges from 0 to 60 percent.

Typically, the surface layer of Colton soils is covered by a layer of forest litter. The surface layer is black loamy fine sand. The subsurface layer is brown loamy fine sand. The subsoil is dark brown loamy sand, dark red, red, and yellowish red gravelly loamy sand and very gravelly loamy coarse sand, and strong brown gravelly coarse sand. The substratum is yellowish brown very gravelly coarse sand and light olive brown very cobbly coarse sand.

Typically, the surface layer of Adams soils is covered by a layer of forest litter. The surface layer is very dark grayish brown loamy fine sand. The subsoil is dark reddish brown loamy fine sand and reddish brown and dark yellowish brown loamy fine sand. The substratum is grayish brown sand.

Typically, the surface layer of Podunk soils is very dark grayish brown fine sandy loam. The subsoil is olive brown and light olive brown, mottled fine sandy loam. The substratum is olive, mottled coarse sand.

The minor soils are the well drained Ondawa soils and the poorly drained Rumney soils on flood plains, the well drained Monadnock soils on the tops and sides of hills and ridges, and the moderately well drained Sheepscot soils on terraces and back slopes and in slight depressions.

In most areas the soils in this map unit are wooded. In some nearly level to strongly sloping areas, they have been cleared and are farmed.

Podunk soils are well suited to cultivated crops, hay, and pasture, although flooding is a hazard. In the gently sloping and strongly sloping areas, Colton and Adams soils are suited to cultivated crops, hay, and pasture. In the moderately steep areas, they are poorly suited to these crops, and in the steep and very-steep areas, they are generally not suited. On Colton and Adams soils, the low available water capacity is a management concern. In the strongly sloping to very steep areas of Colton and Adams soils, erosion is a hazard.

The potential productivity for trees on these soils is moderate to very high, depending on the species. On Colton and Adams soils, the rate of seedling mortality is a management concern. In the moderately steep to very steep areas of Colton and Adams soils, erosion is a hazard and the equipment limitation is a concern.

There are few limitations to use of Colton and Adams soils as sites for dwellings. In some strongly sloping to very steep areas, excavation is needed to prepare nearly level building sites. Flooding and the seasonal high water table limit the use of Podunk soils as sites for dwellings.

The poor filtering capacity is the main limitation to use of these soils as sites for septic tank absorption fields. Flooding and the seasonal high water table also limit the use of Podunk soils as sites for septic tank absorption fields. If the soils in this map unit are used as sites for septic tank absorption fields, the ground water can be contaminated because these soils readily absorb effluent but in most areas do not adequately filter it.

3. Houghtonville-Rawsonville-Mundal

Very deep and moderately deep, gently sloping to very steep, well drained and moderately well drained soils that formed in loamy glacial till and in compact, loamy glacial till; on hills and mountains

This map unit makes up about 45 percent of the county. The map unit is about 22 percent Houghtonville soils, 20 percent Rawsonville soils, 17 percent Mundal soils, and 41 percent minor soils (fig. 2).

Houghtonville soils are very deep and well drained. Rawsonville soils are moderately deep and well drained. Mundal soils are very deep and well drained and moderately well drained. Houghtonville, Rawsonville, and Mundal soils are on the tops and sides of hills, ridges, and mountains. In most areas of this map unit stones and boulders cover 0.1 to 3 percent of the surface. In some areas of this map unit rock outcrops cover as much as 10 percent of the surface. Slope is dominantly 8 to 50 percent, but ranges from 3 to 50 percent.

Typically, the surface layer of the Houghtonville soils is covered by a layer of forest litter. The surface layer is black fine sandy loam. The subsurface layer is light brownish gray fine sandy loam. The subsoil is dark reddish brown fine sandy loam and dark brown, dark yellowish brown, and olive gravelly fine sandy loam. The substratum is dark olive gravelly fine sandy loam.

Typically, the surface layer of Rawsonville soils is covered by a layer of forest litter. The surface layer is black fine sandy loam. The subsoil is dark reddish brown and dark brown fine sandy loam. Bedrock is at a depth of about 28 inches.

Typically, the surface layer of Mundal soils is covered by a layer of forest litter. The surface layer is black fine sandy loam. The subsurface layer is dark gray fine sandy loam. The subsoil is very dusky red and dark reddish brown fine sandy loam and dark brown sandy loam. The substratum is dark grayish brown and olive brown gravelly fine sandy loam that is firm in the upper part.

The minor soils are the somewhat poorly drained Worden soils on foot slopes, on toe slopes, and in slight

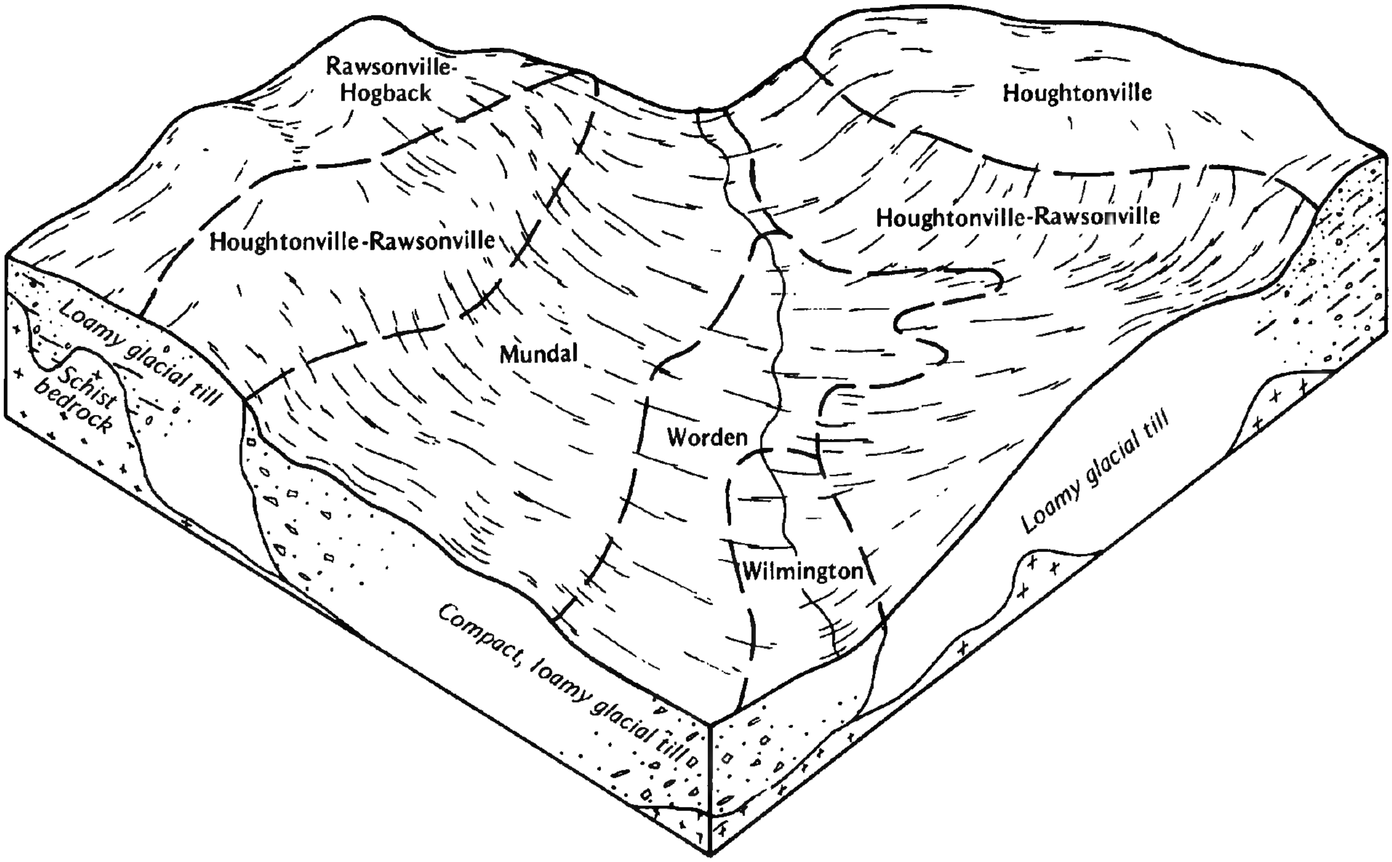

Figure 2.—Typical landscape pattern of soils and underlying material in the Houghtonville-Rawsonville-Mundal general soil map unit.

depressions, the well drained Hogback and Monadnock soils on summits and shoulders, the poorly drained Wilmington soils in depressions and drainageways, and the well drained Stratton, Glebe, and Londonderry soils on mountaintops.

In most areas the soils in this map unit are wooded (fig.3). In a few gently sloping to moderately steep areas, they have been cleared and are farmed.

In most areas these soils are not suited to cultivated crops and hay because of stones and boulders on the surface. They are poorly suited to pasture. In areas where few stones and boulders are on the surface, the soils are suited to cultivated crops, hay, and pasture. Erosion is a hazard, and the short growing season is a management concern.

The potential productivity for trees on these soils ranges from moderate to very high, depending on the species. The main concerns in woodland management are the erosion hazard, the windthrow hazard, and the equipment limitation.

In the strongly sloping to very steep areas, slope limits the use of these soils as sites for dwellings. Depth to bedrock also limits the use of Rawsonville soils as sites for dwellings. The seasonal high water table also limits the use of Mundal soils as sites for dwellings.

In the strongly sloping to very steep areas, slope limits the use of the soils in this map unit as sites for septic tank absorption fields. Depth to bedrock also limits the use of Rawsonville soils as sites for septic tank absorption fields. The seasonal high water table and the slow or moderately slow permeability in the firm part of the substratum also limit the use of Mundal soils as sites for septic tank absorption fields.

4. Worden-Wilmington

Very deep, gently sloping to moderately steep, somewhat poorly drained and poorly drained soils that formed in compact, loamy glacial till; on hills and in depressional areas on uplands

Figure 3.—Typical landscape in the Houghtonville-Rawsonville-Mundal general soil map unit. A few gently sloping to moderately steep areas are farmed, but most areas are wooded.

This map unit makes up about 4 percent of the county. The map unit is about 58 percent Worden soils, 20 percent Wilmington soils, and 22 percent minor soils.

Worden soils are gently sloping to moderately steep and somewhat poorly drained. They are on foot slopes, on toe slopes, and in slight depressions. Wilmington soils are gently sloping and poorly drained. They are in depressions and drainageways. In most areas of this map unit boulders and stones cover 0.1 to 3 percent of the surface. Slope is dominantly 2 to 15 percent, but ranges from 2 to 25 percent.

Typically, the surface layer of Worden soils is covered by a layer of forest litter. The surface layer is very dark grayish brown loam. The subsoil is dark reddish brown loam and dark brown and olive brown, mottled gravelly fine sandy loam. The substratum is olive brown and dark yellowish brown, mottled gravelly fine sandy loam that is firm in the upper part.

Typically, the surface layer of Wilmington soils is covered by a layer of forest litter. The surface layer is very dark brown very fine sandy loam. The subsoil is very dark grayish brown silt loam and mottled fine sandy loam. The substratum of Wilmington soils is dark grayish

brown, gray, and olive fine sandy loam that is firm in the upper part.

The minor soils are the well drained and moderately well drained Mundal soils on the tops and sides of hills and on ridges and the very poorly drained Lupton and Markey soils in bogs and swamps.

In most areas the soils in this map unit are wooded.

In most areas these soils are not suited to cultivated crops and hay because of stones and boulders on the surface. They are poorly suited to pasture.

The potential productivity for trees on these soils ranges from moderate to very high, depending on the species. The main concerns in woodland management are the equipment limitation and the windthrow hazard. On Wilmington soils, the rate of seedling mortality is also a concern.

The seasonal high water table is the main limitation to use of these soils as sites for dwellings and septic tank absorption fields. The slow or moderately slow permeability in the firm part of the substratum is also a limitation to use of these soils as sites for septic tank absorption fields.

5. Stratton-Glebe-Londonderry

Moderately deep to very shallow, strongly sloping to very steep, well drained soils that formed in loamy glacial till; on mountains

This map unit makes up about 2 percent of the county. The unit is about 33 percent Stratton soils, 17 percent Glebe soils, 12 percent Londonderry soils, and 38 percent minor soils (fig. 4).

Stratton soils are shallow. They are on mountain tops, shoulders, and back slopes. Glebe soils are moderately deep. They are on shoulders and back slopes. Londonderry soils are very shallow. They are on summits. Stones cover 0.1 to 3 percent of the surface. Rock outcrops cover as much as 10 percent of the surface. Slope in this map unit is dominantly 15 to 70 percent, but ranges from 8 to 70 percent.

Typically, the surface layer of Stratton soils is covered by a layer of forest litter. The surface layer is black silt loam, and the subsurface layer is dark gray fine sandy loam. The subsoil is black fine sandy loam and dark reddish brown very cobbly fine sandy loam. Bedrock is at a depth of about 16 inches.

Typically, the surface layer of the Glebe soils is covered by a layer of forest litter. The surface layer is black very fine sandy loam. The subsoil is dusky red and dark reddish brown very fine sandy loam. Bedrock is at a depth of about 25 inches.

Typically, the surface layer of Londonderry soils is covered by a layer of forest litter. The surface layer is black silt loam, and the subsurface layer is reddish gray fine sandy loam. Bedrock is at a depth of about 5 inches.

The minor soils are the well drained Hogback and Rawsonville soils on side slopes of mountains and the very poorly drained Markey soils in bogs.

In almost all areas, the soils in this map unit are wooded.

These soils are not suited to cultivated crops, hay, or pasture because of the rock outcrops, depth to bedrock, and stones on the surface.

The potential productivity for trees on these soils ranges from moderate to high, depending on the species. The main concerns in woodland management are the erosion hazard, the windthrow hazard, the rate of seedling mortality, and the equipment limitation.

Depth to bedrock and slope are the main limitations to use of these soils as sites for dwellings and septic tank absorption fields.

6. Tunbridge-Marlow-Lyman

Very deep to shallow, gently sloping to very steep, somewhat excessively drained and well drained soils that formed in loamy glacial till and in compact, loamy glacial till; on hills and mountains

This map unit makes up about 30 percent of the county. The unit is about 22 percent Tunbridge soils, 20 percent Marlow soils, 14 percent Lyman soils, and 44 percent minor soils (fig. 5).

Tunbridge soils are moderately deep and well drained. They are generally on back slopes and shoulders. Marlow soils are very deep and well drained. They are on summits, shoulders, and back slopes. Lyman soils are shallow and somewhat excessively drained. They are on summits and shoulders. In most areas of this map unit stones cover 0.1 to 3 percent of the surface. In some areas of this map unit rock outcrops cover as much as 20 percent of the surface. Slope is dominantly 8 to 50 percent, but ranges from 3 to 50 percent.

Typically, the surface layer of Tunbride soils is covered by a layer of forest litter. The surface layer is dark brown fine sandy loam. The subsoil is dark reddish brown and dark brown fine sandy loam. Bedrock is at a depth of about 27 inches.

Typically, the surface layer of Marlow soils is covered by a layer of forest litter. The surface layer is black fine sandy loam. The subsurface layer is gray fine sandy loam. The subsoil is dark brown fine sandy loam and dark yellowish brown, olive brown, and olive gravelly fine sandy loam. The substratum is olive gray gravelly fine sandy loam. It is very firm.

Typically, the surface layer of Lyman soils is covered by a layer of forest litter. The surface layer is very dark grayish brown fine sandy loam. The subsoil is dark brown and dark yellowish brown fine sandy loam and gravelly fine sandy loam. Bedrock is at a depth of about 15 inches.

The minor soils are the well drained Berkshire and Monadnock soils on back slopes, shoulders, and

summits; the somewhat poorly drained Westbury soils in depressions, on toe slopes, and on foot slopes; and the very poorly drained Lupton and Markey soils in bogs and swamps.

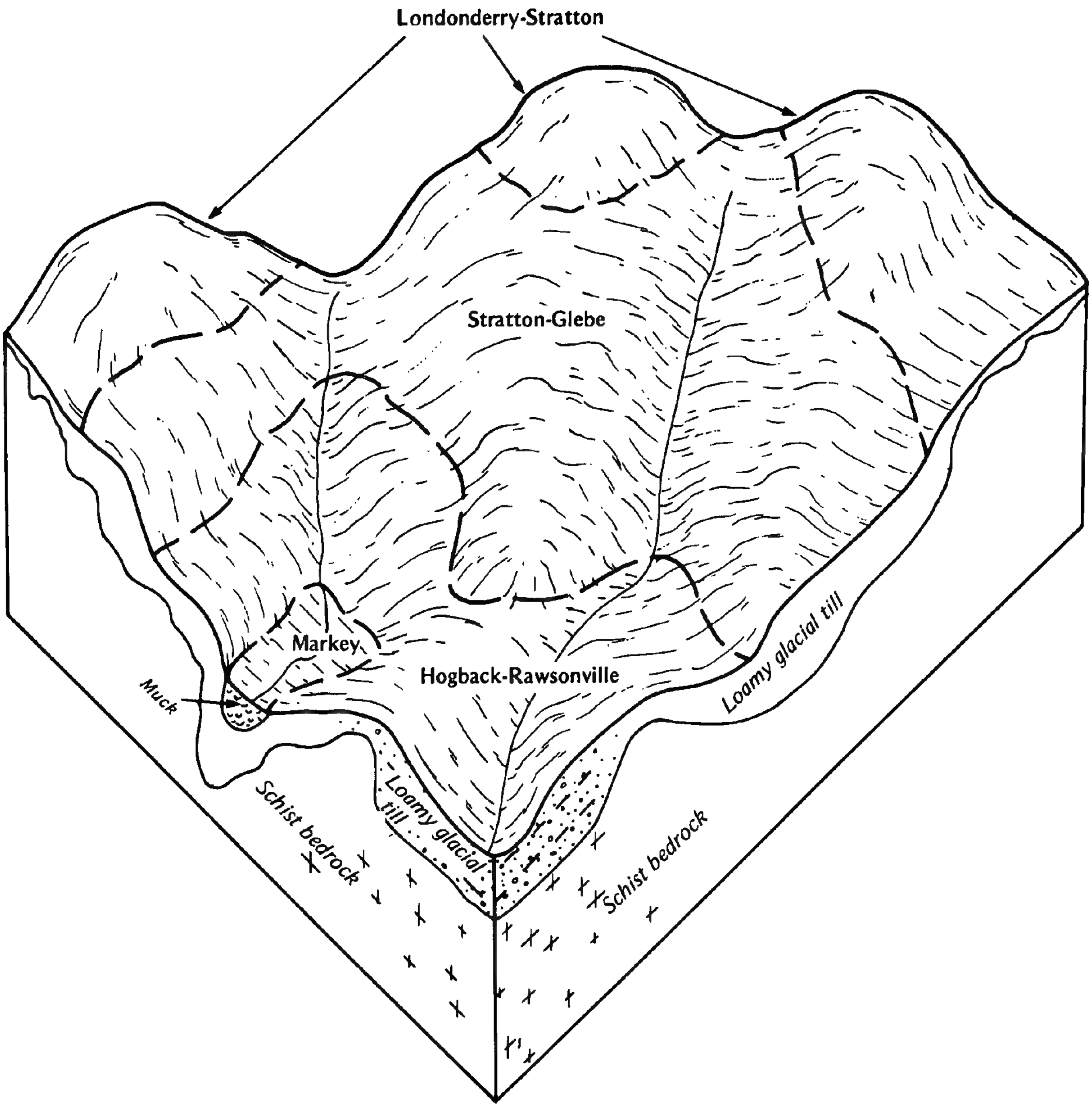

Figure 4.—Typical landscape pattern of soils and underlying material in the Stratton-Glebe-Londonderry general soil map unit.

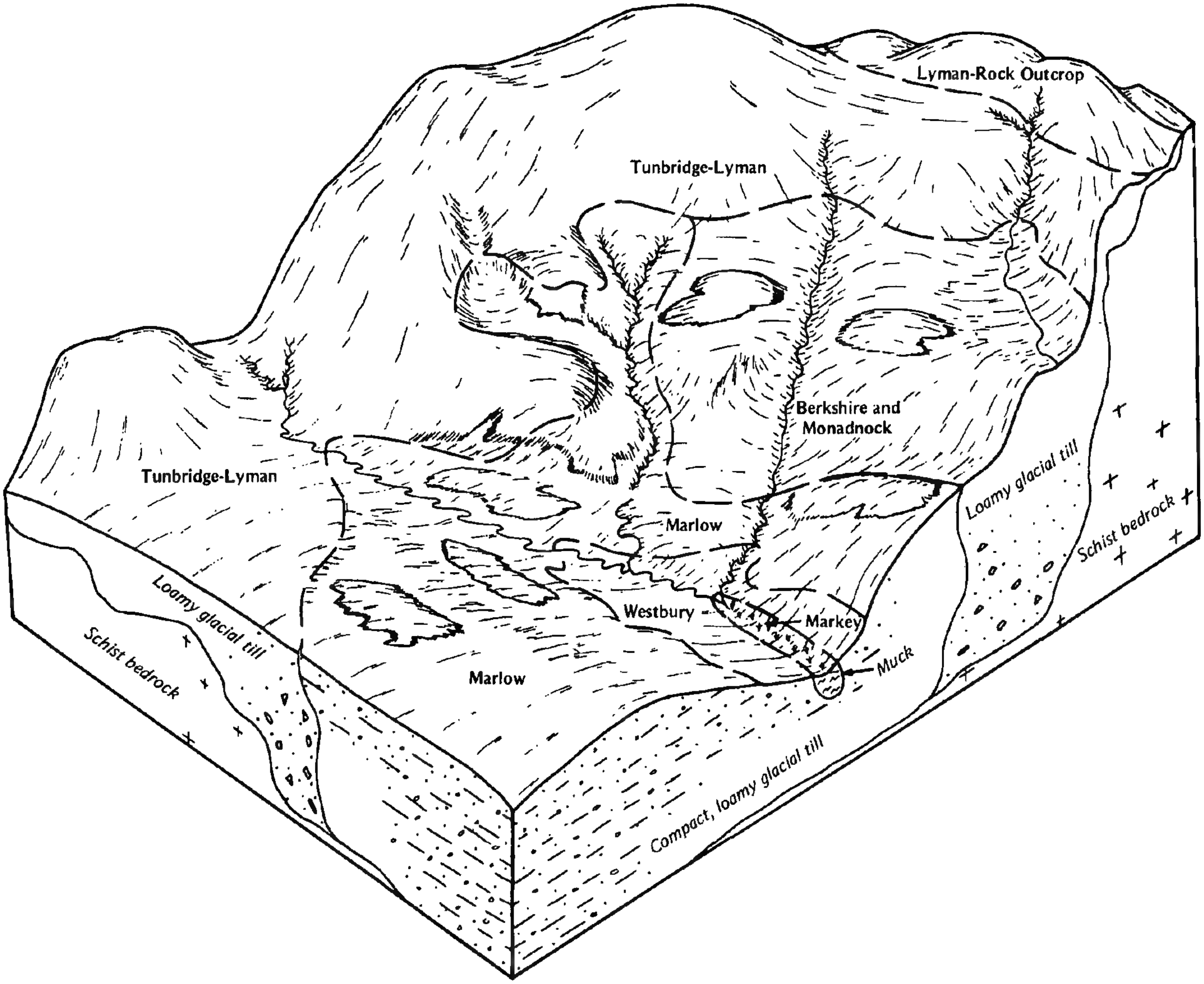

Figure 5.—Typical landscape pattern of soils and underlying material in the Tunbridge-Marlow-Lyman general soil map unit.

In most areas the soils in this map unit are wooded. In many gently sloping to moderately steep areas, the soils have been cleared and are farmed.

In most areas these soils are not suited to cultivated crops and hay because of stones on the surface. They are poorly suited to pasture. In gently sloping to moderately steep areas where few stones are on the surface, the soils are suited to cultivated crops, hay, and pasture but erosion is a hazard.

The potential productivity for trees on these soils is moderate to very high, depending on the species. The main concerns in woodland management are the erosion hazard and the windthrow hazard. In the moderately steep to very steep areas, the equipment limitation is also a concern. On Lyman soils, the rate of seedling mortality is also a concern.

In the strongly sloping to very steep areas, slope limits the use of the soils in this map unit as sites for dwellings. Depth to bedrock also limits the use of Tunbridge and Lyman soils as sites for dwellings. The seasonal high water table and the slow and very slow

permeability also limit the use of Marlow soils as sites for dwellings.

In the strongly sloping to very steep areas, slope limits the use of the soils in this map unit as sites for septic tank absorption fields. Depth to bedrock also limits the use of Tunbridge and Lyman soils as sites for septic tank absorption fields. The seasonal high water table and the slow and very slow permeability also limit the use of Marlow soils as sites for septic tank absorption fields.

7. Dummerston-Macomber-Taconic

Very deep to shallow, gently sloping to very steep, somewhat excessively drained and well drained soils that formed in loamy glacial till; on hills and mountains

This map unit makes up about 11 percent of the county. The unit is about 22 percent Dummerston soils, 21 percent Marlow soils, 18 percent Taconic soils, and 39 percent minor soils (fig. 6).

Dummerston soils are very deep, gently sloping to very steep, and well drained. They are on summits, shoulders, and back slopes. Macomber soils are moderately deep, strongly sloping to very steep, and well drained. They are on back slopes and shoulders. Taconic soils are shallow, strongly sloping to very steep, and somewhat excessively drained. They are on summits. In most areas of this map unit stones cover 0.1 to 3 percent of the surface. Rock outcrops cover as much as 20 percent of the surface. Slope is dominantly 15 to 70 percent, but ranges from 3 to 70 percent.

Typically, the surface layer of Dummerston soils is covered by a layer of forest litter. The surface layer is very dark grayish brown silt loam. The subsoil is dark yellowish brown, yellowish brown, and olive channery silt loam. The substratum is dark olive gray channery loam.

Typically, the surface layer of Macomber soils is covered by a layer of forest litter. The surface layer is very dark grayish brown channery silt loam. The subsoil is dark yellowish brown channery silt loam. The subsoil is dark yellowish brown channery silt loam and dark grayish brown very channery loam. The substratum is dark grayish brown very channery silt loam. Bedrock is at a depth of 34 inches.

Typically, the surface layer of Taconic soils is covered by a layer of forest litter. The surface layer is very dark brown channery loam. The subsoil is dark yellowish brown channery loam and dark brown and olive brown very channery loam. Bedrock is at a depth of about 19 inches.

The minor soils are the moderately well drained Fullam soils on the tops and sides of hills and ridges, the excessively drained Hubbardton soils on shoulders and summits, and the poorly drained Brayton soils in depressions and drainageways.

In most areas the soils in this map unit are wooded. A few areas are farmed.

In most areas these soils are not suited to cultivated crops and hay because of stones on the surface. They are poorly suited or not suited to pasture. In the gently sloping to moderately steep areas where few stones are on the surface, the soils are suited to cultivated crops, hay, and pasture but erosion is a hazard.

The potential productivity for trees on these soils ranges from moderate to very high, depending on the species. In the moderately steep to very steep areas, the main concerns in woodland management are the erosion hazard and the equipment limitation. On Taconic soils, the rate of seedling mortality and the windthrow hazard are also concerns.

In the strongly sloping to very steep areas, slope limits the use of the soils in this map unit as sites for dwellings and septic tank absorption fields. Depth to bedrock also limits the use of Macomber and Taconic soils as sites for dwellings and septic tank absorption fields.

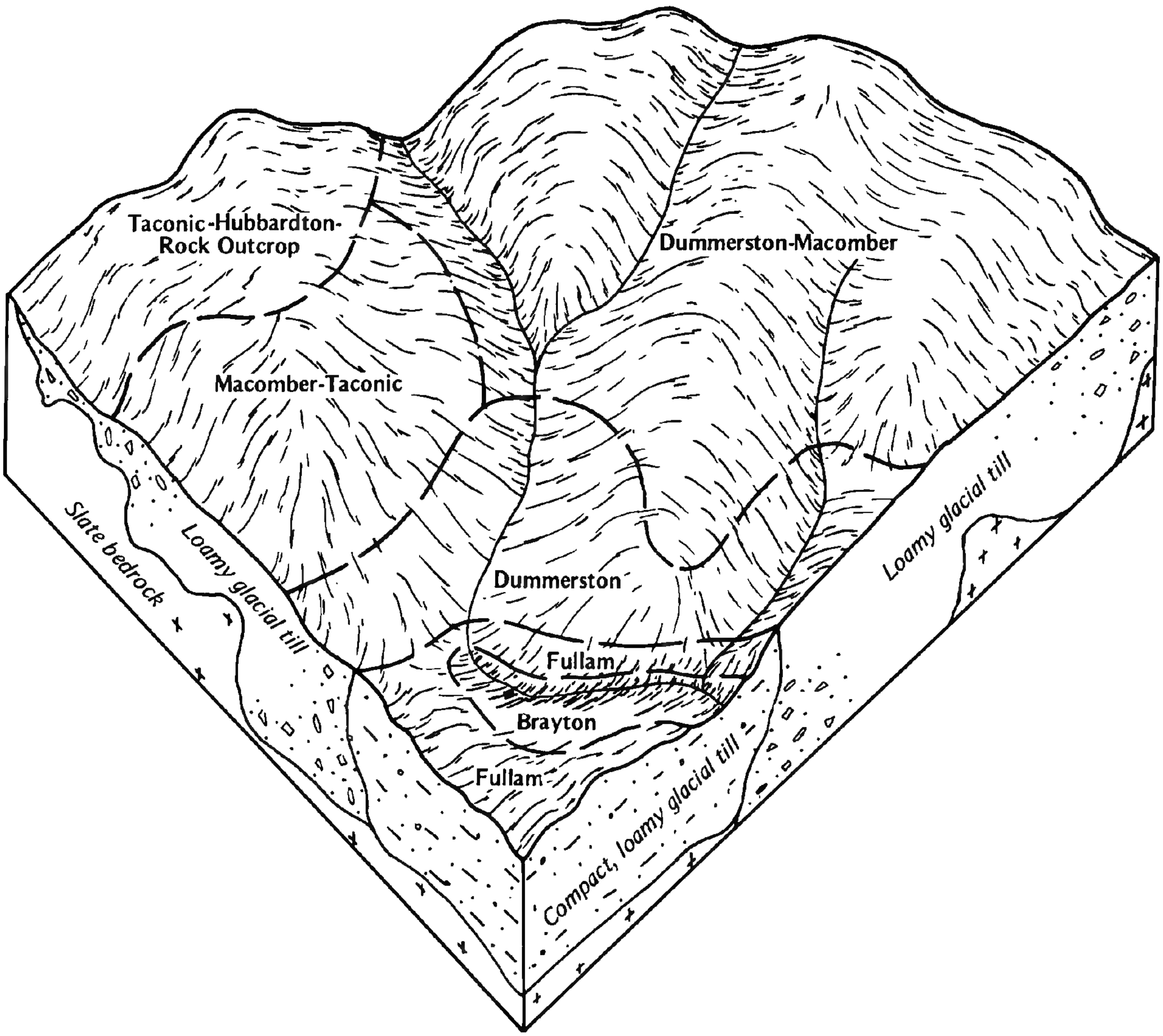

Figure 6.—Typical landscape pattern of soils and underlying material in the Dummerston-Macomber-Taconic general soil map unit.

Detailed Soil Map Units

The map units on the detailed soil maps at the back of this survey represent the soils in the survey area. The map unit descriptions in this section, along with the soil maps, can be used to determine the suitability and potential of a soil for specific uses. They also can be used to plan the management needed for those uses. More information on each map unit, or soil, is given under "Use and Management of the Soils."

Each map unit on the detailed soil maps represents an area on the landscape and consists of one or more soils for which the unit is named.

A symbol identifying the soil precedes the map unit name in the soil descriptions. Each description includes general facts about the soil and gives the principal hazards and limitations to be considered in planning for specific uses.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer or of the underlying material, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer or of the underlying material. They also can differ in slope, stoniness, salinity, wetness, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Worden loam, 8 to 15 percent slopes, is one of several phases in the Worden series.

Some map units are made up of two or more major soils. These map units are called soil complexes, or undifferentiated groups.

A *soil complex* consists of two or more soils, or one or more soils and a miscellaneous area, in such an intricate pattern or in such small areas that they cannot be shown separately on the soil maps. The pattern and proportion of the soils are somewhat similar in all areas. Macomber-Taconic complex, very rocky, 15 to 25 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils in the mapped areas are not uniform. An area can be made up of only one of the major soils, or it can be made up of all of them. Berkshire and Monadnock very stony fine sandy loams, 8 to 15 percent slopes, is an undifferentiated group in this survey area.

Most map units include small scattered areas of soils other than those for which the map unit is named. Some of these included soils have properties that differ substantially from those of the major soil or soils. Such differences could significantly affect use and management of the soils in the map unit. The included soils are identified in each map unit description. Some small areas of strongly contrasting soils are identified by a special symbol on the soil maps.

Table 4 gives the acreage and proportionate extent of each map unit. Other tables (see "Summary of Tables") give properties of the soils and the limitations, capabilities, and potentials for many uses. The Glossary defines many of the terms used in describing the soils.

Soil Descriptions

1A—Unadilla silt loam, 0 to 3 percent slopes. This is a very deep, nearly level, well drained soil on terraces and upland plains.

Typically, the surface layer is very dark grayish brown silt loam 10 inches thick. The subsoil is 26 inches thick. It is dark yellowish brown, olive brown, and light olive brown silt loam. The substratum, to a depth of about 60 inches or more, is olive silt loam and very fine sandy loam.

Included with this soil in mapping are areas of the well drained Agawam soils, the excessively drained Quonset soils, the somewhat excessively drained Warwick soils, and the excessively drained Windsor soils on low knolls and ridges. Also included are areas of the moderately well drained Belgrade soils on back slopes and in slight depressions and the somewhat poorly drained and poorly drained Walpole soils on foot slopes, on toe slopes, and in depressions. A few map units on low terraces are occasionally flooded. In some map units on ridgetops, bedrock is at a depth of 20 to 60 inches. The included soils make up about 15 percent of the map unit.

Permeability in this Unadilla soil is moderate. The available water capacity is high. Depth to bedrock is more than 60 inches. Potential frost action is high.

Most areas of this soil are farmed. Some areas are wooded.

This soil is well suited to cultivated crops (fig. 7). There are few hazards and management concerns.

This soil is well suited to hay and pasture. Overgrazing is a management concern. Using stocking rates within grazing capacity and rotational grazing help to maintain a good stand of hay and pasture plants.

The potential productivity for sugar maple on this soil is moderate. There are few concerns in woodland management.

There are few limitations to use of this soil as sites for dwellings and septic tank absorption fields.

This soil is in capability class I.

1B—Unadilla silt loam, 3 to 8 percent slopes. This is a very deep, gently sloping, well drained soil on terraces and the tops and upper side slopes of knolls and ridges.

Typically, the surface layer is very dark grayish brown silt loam 9 inches thick. The subsoil is silt loam 26 inches thick. In the upper part it is dark yellowish brown, in the middle part it is olive brown, and in the lower part it is light olive brown. The substratum, to a depth of about 60 inches or more, is olive silt loam and very fine sandy loam.

Included with this soil in mapping are areas of the well drained Agawam soils, the excessively drained Quonset soils, the somewhat excessively drained Warwick soils, and the excessively drained Windsor soils on low knolls and ridges. Also included are areas of the moderately well drained Belgrade soils in slight depressions on back

Figure 7.—An area of Unadilla silt loam, 0 to 3 percent slopes, used for silage corn.

slopes and the somewhat poorly drained and poorly drained Walpole soils on foot slopes, on toe slopes, and in depressions. A few map units on low terraces are occasionally flooded. In some map units on ridgetops, bedrock is at a depth of 20 to 60 inches. The included soils make up about 15 percent of the map unit.

Permeability in this Unadilla soil is moderate. The available water capacity is high. Depth to bedrock is more than 60 inches. Potential frost action is high.

Most areas of this soil are farmed. Some areas are wooded.

This soil is well suited to cultivated crops. Erosion is a hazard. Crop rotation, cover cropping, contour farming, and using conservation tillage help to control erosion. Installing diversion ditches to divert surface runoff also helps to control erosion.

This soil is well suited to hay and pasture. Erosion is a hazard, and overgrazing is a management concern. Use of this soil for hay or pasture is effective in controlling erosion. Using stocking rates within grazing capacity and rotational grazing help to maintain a good stand of hay and pasture plants and to control erosion.

The potential productivity for sugar maple on this soil is moderate. There are few concerns in woodland management.

There are few limitations to use of this soil as sites for dwellings and septic tank absorption fields.

This soil is in capability subclass IIe.

1C—Unadilla silt loam, 8 to 15 percent slopes. This is a very deep, strongly sloping, well drained soil on terraces dissected by drainageways and on the tops and upper side slopes of hills and ridges.

Typically, the surface layer is very dark gray brown silt loam 7 inches thick. The subsoil is silt loam 26 inches thick. In the upper part it is dark yellowish brown, in the middle part it is olive brown, and in the lower part it is light olive brown. The substratum, to a depth of about 60 inches or more, is olive silt loam and very fine sandy loam.

Included with this soil in mapping are areas of the well drained Agawam soils, the excessively drained Quonset soils, the somewhat excessively drained Warwick soils, and the excessively drained Windsor soils on knolls and ridges. Also included are areas of the moderately well drained Belgrade soils on back slopes and in slight depressions and the somewhat poorly drained and poorly drained Walpole soils on foot slopes, on toe slopes, and in depressions. In some map units on ridgetops, bedrock is at a depth of 20 to 60 inches. The included soils make up about 15 percent of the map unit.

Permeability in this Unadilla soil is moderate. The available water capacity is high. Depth to bedrock is more than 60 inches. Potential frost action is high.

Most areas of this soil are farmed. Some areas are wooded.

This soil is suited to cultivated crops. Erosion is a hazard. Crop rotation, cover cropping, contour farming, and using conservation tillage help to control erosion. Installing diversion ditches to divert surface runoff also helps to control erosion.

This soil is well suited to hay and pasture. Erosion is a hazard, and overgrazing is a management concern. Use of this soil for hay or pasture is effective in controlling erosion. Using stocking rates within grazing capacity and rotational grazing help to maintain a good stand of hay and pasture plants and to control erosion.

The potential productivity for sugar maple on this soil is moderate. The main concern in woodland management is the erosion hazard. Laying out skid trails and logging roads across the slope and installing culverts and water bars as needed help to control erosion.

Slope is the main limitation to use of this soil as sites for dwellings and septic tank absorption fields. In places excavation and land grading are needed to prepare nearly level sites for dwellings and septic tank absorption fields.

These soils are in capability subclass IIIe.

1D—Unadilla silt loam, 15 to 25 percent slopes. This is a very deep, moderately steep, well drained soil on terraces dissected by drainageways.

Typically, the surface layer is very dark grayish brown silt loam 6 inches thick. The subsoil is silt loam 26 inches thick. In the upper part it is dark yellowish brown, in the middle part it is olive brown, and in the lower part it is light olive brown. The substratum, to a depth of 60 inches or more, is olive silt loam and very fine sandy loam.

Included with this soil in mapping are areas of the well drained Agawam soils, the excessively drained Quonset soils, the somewhat excessively drained Warwick soils, and the excessively drained Windsor soils on hills and ridges. Also included are areas of the moderately well drained Belgrade soils on back slopes and in slight depressions. In some map units on ridgetops, bedrock is at a depth of 20 to 60 inches. The included soils make up about 15 percent of the map unit.

Permeability in this Unadilla soil is moderate. The available water capacity is high. Depth to bedrock is more than 60 inches. Potential frost action is high.

Most areas of this soil are farmed. Some areas are wooded.

This soil is poorly suited to cultivated crops. Erosion is a hazard, and the equipment limitation is a management concern. Crop rotation, cover cropping, contour farming, and using conservation tillage help to control erosion. Contour farming helps to overcome the equipment limitation.

This soil is suited to hay and pasture. Erosion is a hazard, and overgrazing and the equipment limitation are management concerns. Long term use of this soil for hay

or pasture is effective in controlling erosion. Using stocking rates within grazing capacity and rotational grazing help to maintain a good stand of hay and pasture plants and to control erosion. Seeding, fertilizing, and harvesting hay on the contour help to overcome the equipment limitation.

The potential productivity for sugar maple on this soil is moderate. The main concerns in woodland management are the erosion hazard and the equipment limitation. Laying out skid trails and logging roads across the slope and installing culverts and water bars as needed help to control erosion. Operating logging equipment across the slope reduces the equipment limitation.

Slope is the main limitation to use of this soil as sites for dwellings and septic tank absorption fields. Extensive excavation and land grading are needed to prepare nearly level building sites. Special slope design is needed for septic tank absorption fields.

This soil is in capability subclass IVe.

1E—Udorthents, steep. These are very deep, steep and very steep, well drained soils on terraces dissected by drainageways.

These soils differ greatly from area to area. In many areas, they are dark yellowish brown, olive brown, or olive silt loam and very fine sandy loam to a depth of 60 inches or more. They are susceptible to slippage and pitting. The soils have been obscured or altered by slippage of soil material.

Included with these soils in mapping are small areas of the excessively drained Windsor and Quonset soils and the somewhat excessively drained Warwick soils. In some map units bedrock is at a depth of 20 to 40 inches. The included soils make up about 15 percent of the map unit.

The soil properties of Udorthents, steep, differ greatly from area to area. Thus, onsite investigation is needed to identify the soil properties and to determine the hazards and limitations for each specific use.

Most areas of these soils are wooded. The main concerns in woodland management are the erosion hazard, slippage, and the equipment limitation caused by slope. These soils are generally not suited to use as cropland, hayland, or pasture, to building site development, or to use as sites for septic tank absorption fields because of slope and slippage.

These soils are not assigned to a capability subclass.

2A—Belgrade silt loam, 0 to 3 percent slopes. This is a very deep, nearly level, moderately well drained soil on terraces and back slopes and in slight depressions on upland plains.

Typically, the surface layer is very dark grayish brown silt loam 8 inches thick. The subsoil is 18 inches thick. In the upper part it is dark yellowish brown silt loam, in the middle part it is olive brown silt loam, and in the lower part it is light olive brown, mottled silt loam. The substratum, to a depth of about 60 inches or more, is olive silt loam and very fine sandy loam. In some map units the substratum has layers of silty clay or the content of rock fragments ranges from 5 to 15 percent in the surface layer and subsoil.

Included with this soil in mapping are small areas of the well drained Agawam and Unadilla soils and the excessively drained Windsor soils on low knolls and ridges. Also included are small areas of the moderately well drained Deerfield soils on back slopes and the somewhat poorly drained and poorly drained Walpole soils in depressions and areas of very poorly drained soils in depressions. The included soils make up about 15 percent of the map unit. In a few map units stones cover as much as 3 percent of the surface.

Permeability in this Belgrade soil is moderate in the subsoil and slow to moderately rapid in the substratum. The available water capacity is high. Depth to bedrock is more than 60 inches. The seasonal high water table is at a depth of 1 1/2 to 3 1/2 feet in winter and spring. Potential frost action is high.

Most areas of this soil are farmed. A few areas are wooded.

This soil is well suited to cultivated crops. The seasonal high water table is a management concern. In some years spring tillage is delayed because of the seasonal high water table. In areas suitable for outlets, a subsurface drainage system can be used to lower the seasonal high water table.

This soil is well suited to hay and pasture (fig. 8). Overgrazing and the seasonal high water table are management concerns. Using stocking rates within grazing capacity, using rotational grazing, and, during wet periods, deferred grazing help to maintain a good stand of hay and pasture plants. Planting water-tolerant plants helps to overcome the seasonal high water table.

The potential productivity for eastern white pine on this soil is very high. There are few concerns in woodland management.

The seasonal high water table is the main limitation to use of this soil as sites for dwellings and septic tank absorption fields. Permeability in the substratum is also a limitation for septic tank absorption fields. In places a suitable fill material is needed to raise the existing grade of the site. Additional waterproofing practices and footing drains are needed to prevent wet basements. In places special construction, such as mounding the septic tank absorption field with a suitable fill material, is needed to raise the absorption field the required distance above the seasonal high water table.

This soil is in capability subclass IIw.

3B—Quonset and Warwick soils, 2 to 8 percent slopes. This map unit consists of very deep and gently sloping soils on terraces and the tops of knolls and ridges. The total acreage of the map unit is about 50

Figure 8.—An area of Belgrade silt loam, 0 to 3 percent slopes, used for pasture.

percent Quonset soils, 30 percent Warwick soils, and 20 percent other soils. Some areas are mainly the excessively drained Quonset soils, some are mainly the somewhat excessively drained Warwick soils, and some consist of both. The Quonset and Warwick soils were mapped together because they are similar in use and management.

Typically, the surface layer of the Quonset soils is very dark grayish brown fine sandy loam about 7 inches thick. The subsoil is dark yellowish brown and 13 inches thick. In the upper part it is gravelly sandy loam, and in the lower part it is very gravelly loamy sand. The substratum, to a depth of 60 inches or more, is olive brown and grayish brown very gravelly sand.

Typically, the surface layer of the Warwick soils is covered by a layer of forest litter 2 inches thick. The surface layer is dark reddish brown very gravelly loam about 2 inches thick. The subsoil is 22 inches thick. In the upper part it is dark brown very gravelly loam, in the middle part it is dark yellowish brown very gravelly loam, and in the lower part it is light olive brown very gravelly coarse sandy loam. The substratum of the Warwick soils, to a depth of 60 inches or more, is olive very gravelly loamy coarse sand.

Included with these soils in mapping are small areas of the well drained Agawam and Unadilla soils and the excessively drained Windsor soils on low knolls and ridgetops. Also included are areas of the moderately well drained Deerfield soils on back slopes and the somewhat poorly drained and poorly drained Walpole soils in depressions. The included soils make up about 20 percent of the map unit. In some map units bedrock is at a depth of 20 to 60 inches or stones cover as much as 3 percent of the surface.

Permeability is moderately rapid or rapid in the subsoil and very rapid in the substratum in the Quonset soils and moderately rapid in the subsoil and very rapid in the substratum in the Warwick soils. The available water

capacity is low for both soils. Depth to bedrock is more than 60 inches in both soils. Potential frost action is low for both soils.

Most areas of these soils are farmed. A few areas are wooded. Some areas are used as a source of sand and gravel.

These soils are suited to cultivated crops. Erosion is a hazard, and the low available water capacity, or droughtiness, is a management concern. Crop rotation, cover cropping, contour farming, and using conservation tillage help to control erosion. Tillage practices that leave part of the crop residue on the surface and supplemental applications of organic matter help to increase the available water capacity.

These soils are well suited to hay and pasture. Droughtiness and overgrazing are management concerns. Using stocking rates within grazing capacity, using rotational grazing, and during dry periods, deferred grazing help to maintain a good stand of hay and pasture plants. Planting drought-resistant plants helps to overcome droughtiness.

The potential productivity for eastern white pine is high on the Quonset soils and very high on the Warwick soils. The main concern in woodland management is the rate of seedling mortality. Some seedling losses occur during dry periods in summer. Using special planting stock and, in places, special site preparation, such as bedding and furrowing before planting, helps to reduce seedling losses.

There are few limitations to use of these soils as sites for dwellings. The poor filtering capacity is the main limitation for septic tank absorption fields. If these soils are used as sites for septic tank absorption fields, the ground water can be contaminated because these soils readily absorb effluent but in most areas do not adequately filter it. Seepage can be monitored by periodically testing wells for possible contamination.

These soils are in capability subclass IIIs.

3C—Quonset and Warwick soils, 8 to 15 percent slopes. This map unit consists of very deep and strongly sloping soils on terraces and the tops of knolls and ridges. The total acreage of the map unit is about 55 percent Quonset soils, 35 percent Warwick soils, and 10 percent other soils. Some areas are mainly the excessively drained Quonset soils, some are mainly the somewhat excessively drained Warwick soils, and some consist of both. The Quonset and Warwick soils were mapped together because they are similar in use and management.

Typically, the surface layer of the Quonset soils is very dark grayish brown fine sandy loam 7 inches thick. The subsoil is dark yellowish brown and 13 inches thick. In the upper part it is gravelly sandy loam, and in the lower part it is very gravelly loamy sand. The substratum, to a depth of 60 inches or more, is olive brown and grayish brown very gravelly sand.

Typically, the surface layer of the Warwick soils is covered by a layer of forest litter 2 inches thick. The surface layer is dark reddish brown very gravelly loam 7 inches thick. The subsoil is 17 inches thick. In the upper part it is dark brown very gravelly loam, in the middle part it is dark yellowish brown very gravelly loam, and in the lower part it is light olive brown very gravelly coarse sandy loam. The substratum, to a depth of 60 inches or more, is olive very gravelly loamy coarse sand.

Included with these soils in mapping are small areas of the well drained Agawam and Unadilla soils and the excessively drained Windsor soils on low knolls and ridgetops. Also included are areas of the moderately well drained Deerfield soils on back slopes and the somewhat poorly drained and poorly drained Walpole soils in depressions. The included soils make up about 10 percent of the map unit. In some map units bedrock is at a depth of 20 to 60 inches or stones cover more than 0.1 percent of the surface.

Permeability is moderately rapid or rapid in the subsoil and very rapid in the substratum in the Quonset soils and moderately rapid in the subsoil and very rapid in the substratum in the Warwick soils. The available water capacity is low for both soils. Depth to bedrock is more than 60 inches in both soils. Potential frost action is low for both soils.

Most areas of these soils are farmed. A few areas are wooded. Some areas are used as a source of sand and gravel.

These soils are suited to cultivated crops. Erosion is a hazard, and the low available water capacity, or droughtiness, is a management concern. Crop rotation, cover cropping, contour farming, and using conservation tillage help to control erosion. Tillage practices that leave part of the crop residue on the surface and supplemental applications of organic matter help to increase the available water capacity.

These soils are well suited to hay and pasture. Erosion is a hazard, and overgrazing and droughtiness are management concerns. Using stocking rates within grazing capacity, using rotational grazing, and, during dry periods, deferred grazing help to maintain a good stand of hay and pasture plants and to control erosion. Planting drought-tolerant plants also helps to overcome droughtiness.

The potential productivity for eastern white pine is high on the Quonset soils and very high on the Warwick soils. The main concern in woodland management is the rate of seedling mortality. Some seedling losses occur during dry periods in summer. Using special planting stock and, in places, special site preparations, such as bedding and furrowing before planting, helps to reduce seeding losses.

Slope is the main limitation to use of these soils as sites for dwellings. In places excavation is needed to prepare nearly level building sites. The poor filtering capacity is the main limitation for septic tank absorption

fields. If these soils are used as sites for septic tank absorption fields, the ground water can be contaminated because these soils readily absorb effluent but in most areas do not adequately filter it. Seepage can be monitored by periodically testing wells for possible contamination.

These soils are in capability subclass IVs.

3D—Quonset and Warwick soils, 15 to 25 percent slopes. This map unit consists of very deep and moderately steep soils on terraces dissected by drainageways and on hilltops and ridgetops. The total acreage of the map unit is about 60 percent Quonset soils, 25 percent Warwick soils, and 15 percent other soils. Some areas are mainly the excessively drained Quonset soils, some are mainly the somewhat excessively drained Warwick soils, and some consist of both. The Quonset and Warwick soils were mapped together because they are similar in use and management.

Typically, the surface layer of the Quonset soils is very dark grayish brown fine sandy loam 6 inches thick. The subsoil is dark yellowish brown and 13 inches thick. In the upper part it is gravelly sandy loam, and in the lower part it is very gravelly loamy sand. The substratum, to a depth of 60 inches or more, is olive brown and grayish brown very gravelly sand.

Typically, the surface layer of the Warwick soils is dark reddish brown very gravelly loam 6 inches thick. The subsoil is 17 inches thick. In the upper part it is dark brown very gravelly loam, in the middle part it is dark yellowish brown very gravelly loam, and in the lower part it is light olive brown very gravelly coarse sandy loam. The substratum, to a depth of 60 inches or more, is olive very gravelly loamy coarse sand.

Included with these soils in mapping are small areas of the well drained Agawam and Unadilla soils and the excessively drained Windsor soils on low knolls and on ridgetops. Also included are areas of the moderately well drained Deerfield soils on back slopes and in slight depressions. The included soils make up about 15 percent of the map unit. In some map units bedrock is at a depth of 20 to 60 inches or stones cover more than 0.1 percent of the surface.

Permeability is moderately rapid or rapid in the subsoil and very rapid in the substratum in the Quonset soils and moderately rapid in the subsoil and very rapid in the substratum in the Warwick soils. The available water capacity is low for both soils. Depth to bedrock is more than 60 inches in both soils. Potential frost action is low for both soils.

Most areas of these soils are wooded. A few areas are farmed. Some areas are used as a source of sand and gravel.

These soils are poorly suited to cultivated crops. Erosion is a hazard, and the low available water capacity, or droughtiness, and the equipment limitation are management concerns. Crop rotation, cover cropping, contour farming, and using conservation tillage help to control erosion. Supplemental applications of organic matter help to increase the available water capacity. Contour farming helps to overcome the equipment limitation.

These soils are suited to hay and pasture. Erosion is a hazard, and overgrazing, droughtiness, and the equipment limitation are management concerns. Long term use of these soils for hay and pasture is effective in controlling erosion. Using stocking rates within grazing capacity, using rotational grazing, and, during dry periods, deferred grazing help to maintain a good stand of hay and pasture plants and to control erosion. Planting drought-tolerant plants helps to overcome droughtiness. Seeding, fertilizing, and harvesting hay on the contour helps to overcome the equipment limitation.

The potential productivity for eastern white pine is high on the Quonset soils and very high on the Warwick soils. The main concerns in woodland management are the erosion hazard, the rate of seedling mortality, and the equipment limitation. Laying out skid trails and logging roads across the slope and installing culverts and water bars help to control erosion. Some seedling losses occur during dry periods in summer. Using special planting stock and, in places, special site preparations, such as bedding and furrowing before planting, helps to reduce seedling losses. Operating logging equipment across the slope reduces the equipment limitation.

Slope is the main limitation to use of these soils as sites for dwellings and septic tank absorption fields. Extensive excavation is needed to prepare nearly level sites for dwellings. Special slope design is needed for septic tank absorption fields. The poor filtering capacity is also a limitation for septic tank absorption fields. If these soils are used as sites for septic tank absorption fields, the ground water can be contaminated because these soils readily absorb effluent but in most areas do not adequately filter it. Seepage can be monitored by periodically testing wells for possible contamination.

These soils are in capability subclass VIs.

3E—Quonset and Warwick soils, 25 to 70 percent slopes. This map unit consists of very deep and steep and very steep soils on dissected terraces and on hilltops and ridgetops. The total acreage of the map unit is about 55 percent Quonset soils, 30 percent Warwick soils, and 15 percent other soils. Some areas are mainly the excessively drained Quonset soils, some are mainly the somewhat excessively drained Warwick soils, and some consist of both. The Quonset and Warwick soils were mapped together because they are similar in use and management.

Typically, the surface layer of the Quonset soils is covered by a layer of forest litter 2 inches thick. The surface layer is very dark grayish brown fine sandy loam 2 inches thick. The subsoil is dark yellowish brown and

13 inches thick. In the upper part it is gravelly sandy loam, and in the lower part it is very gravelly loamy sand. The substratum, to a depth of about 60 inches or more, is olive brown and grayish brown gravelly sand.

Typically, the surface layer of the Warwick soils is covered by a layer of forest litter 2 inches thick. The surface layer is dark reddish brown very gravelly loam 2 inches thick. The subsoil is 22 inches thick. In the upper part it is dark brown very gravelly loam, in the middle part it is dark yellowish brown very gravelly loam, and in the lower part it is light olive brown very gravelly coarse sandy loam. The substratum, to a depth of about 60 inches or more, is olive very gravelly loamy coarse sand.

Included with these soils in mapping are small areas of the well drained Agawam and Unadilla soils and the excessively drained Windsor soils on low knolls and on ridgetops. The included soils make up about 15 percent of the map unit. In some map units bedrock is at a depth of 20 to 40 inches or stones cover as much as 3 percent of the surface.

Permeability is moderately rapid or rapid in the subsoil and very rapid in the substratum in the Quonset soils and moderately rapid in the solum and very rapid in the substratum in the Warwick soils. The available water capacity is low for both soils. Depth to bedrock is more than 60 inches in both soils. The potential frost action is low for both soils.

Almost all areas of these soils are wooded. A few areas are used as a source of sand and gravel.

These soils are not suited to cultivated crops, hay, or pasture because of slope.

The potential productivity for eastern white pine is high on the Quonset soils and very high on the Warwick soils. The main concerns in woodland management are the erosion hazard, the rate of seedling mortality, and the equipment limitation. Laying out skid trails and logging roads across the slope and installing culverts and water bars as necessary help to control erosion. Some seedling losses occur during dry periods in summer. Using special planting stock and, in places, special site preparations, such as bedding and furrowing before planting, helps to reduce seedling losses. Operating logging equipment across the slope helps to reduce the equipment limitation.

These soils are not suited to use as sites for dwellings and septic tank absorption fields because of slope and the poor filtering capacity.

These soils are in capability subclass VIIs.

5B—Windsor loamy fine sand, 2 to 8 percent slopes. This is a very deep, gently sloping, excessively drained soil on terraces, hilltops, and ridgetops.

Typically, the surface layer is very dark grayish brown loamy fine sand 9 inches thick. The subsoil is 17 inches thick. In the upper part it is olive brown loamy fine sand, and in the lower part it is light olive brown fine sand. The substratum, to a depth of about 60 inches or more, is olive and olive gray sand. In places reaction in the substratum is neutral or the substratum is silt loam.

Included with this soil in mapping are small areas of the well drained Agawam and Unadilla soils, the excessively drained Quonset soils, and the somewhat excessively drained Warwick soils on knolls and ridgetops. Also included are areas of the moderately well drained Deerfield soils and the somewhat poorly drained and poorly drained Walpole soils in depressions. In some map units on ridgetops, rock outcrops cover about 1 percent of the surface. The included soils make up about 15 percent of the map unit.

Permeability in this Windsor soil is rapid or very rapid. The available water capacity is low. Depth to bedrock is more than 60 inches. Potential frost action is low.

Most areas of this soil are farmed. Some areas are wooded. Other areas are used as a source of sand.

This soil is suited to cultivated crops. The low available water capacity, or droughtiness, is a management concern. Tillage practices that leave part of the crop residue on the surface and supplemental applications of organic matter help to increase the available water capacity.

This soil is well suited to hay and pasture. Overgrazing and droughtiness are management concerns. Using stocking rates within grazing capacity, using rotational grazing, and, during dry periods, deferred grazing help to maintain a good stand of hay and pasture plants. Planting drought-resistant plants also helps to overcome droughtiness.

The potential productivity for eastern white pine on this soil is high. The main concern in woodland management is the rate of seedling mortality. Some seedling losses occur during dry periods in summer. Using special planting stock and, in places, special site preparation, such as bedding and furrowing before planting, helps to reduce seedling losses.

There are few limitations to use of this soil as sites for dwellings. The poor filtering capacity is the main limitation for septic tank absorption fields. If this soil is used as sites for septic tank absorption fields, the ground water can be contaminated because this soil readily absorbs effluent but, in most areas, does not adequately filter it. Seepage can be monitored by periodically testing wells for possible contamination.

This soil is in capability subclass IIIs.

5C—Windsor loamy fine sand, 8 to 15 percent slopes. This is a very deep, strongly sloping, excessively drained soil on terraces dissected by drainageways and on the tops of knolls and ridges.

Typically, the surface layer is very dark grayish brown loamy fine sand 7 inches thick. The subsoil is 17 inches thick. In the upper part it is olive brown loamy fine sand, and in the lower part it is light olive brown fine sand. The substratum, to a depth of 60 inches or more, is olive and

olive gray sand. In places reaction in the substratum is neutral or the substratum is silt loam.

Included with this soil in mapping are small areas of the well drained Agawam and Unadilla soils, the excessively drained Quonset soils, and the somewhat excessively drained Warwick soils on knolls and ridgetops. Also included are areas of the moderately well drained Deerfield soils and the somewhat poorly drained and poorly drained Walpole soils on toe slopes, foot slopes, and back slopes and in depressions. In some map units on ridgetops, rock outcrops cover about 1 percent of the surface. The included soils make up about 15 percent of the map unit.

Permeability in this Windsor soil is rapid or very rapid. The available water capacity is low. Depth to bedrock is more than 60 inches. Potential frost action is low.

Most areas of this soil are farmed. Some areas are wooded. Other areas are used as a source of sand.

This soil is suited to cultivated crops. Erosion is a hazard, and the low available water capacity, or droughtiness, is a management concern. Crop rotation, cover cropping, contour farming, and using conservation tillage help to control erosion. Tillage practices that leave part of the crop residue on the surface and supplemental applications of organic matter help to increase the available water capacity.

This soil is well suited to hay and pasture. Erosion is a hazard, and overgrazing and droughtiness are management concerns. Using stocking rates within grazing capacity, using rotational grazing, and, during dry periods, deferred grazing help to maintain a good stand of hay and pasture plants and to control erosion. Planting drought-tolerant plants helps to overcome droughtiness.

The potential productivity for eastern white pine on this soil is high. The main concern in woodland management is the rate of seedling mortality. Some seedling losses occur during dry periods in summer. Using special planting stock and, in places, special site preparation, such as bedding and furrowing before planting, helps to reduce seedling losses.

Slope is the main limitation to use of this soil as sites for dwellings. In places excavation is needed to prepare nearly level building sites. The poor filtering capacity is the main limitation for septic tank absorption fields. If this soil is used as sites for septic tank absorption fields, the ground water can be contaminated because this soil readily absorbs effluent but in most areas does not adequately filter it. Seepage can be monitored by periodically testing wells for possible contamination.

This soil is in capability subclass IVs.

5D—Windsor loamy fine sand, 15 to 25 percent slopes. This is a very deep, moderately steep, excessively drained soil on terraces dissected by drainageways and on hilltops and ridgetops.

Typically, the surface layer is very dark grayish brown loamy fine sand 7 inches thick. The subsoil is 17 inches thick. In the upper part it is olive brown loamy fine sand, and the lower part it is light olive brown fine sand. The substratum, to a depth of about 60 inches or more, is olive and olive gray sand. In places reaction in the substratum is neutral or the substratum is silt loam.

Included with this soil in mapping are small areas of the well drained Agawam and Unadilla soils, the excessively drained Quonset soils, and the somewhat excessively drained Warwick soils on knolls and ridgetops. Also included are areas of the moderately well drained Deerfield soils on back slopes and in slight depressions. In some map units on ridgetops, rock outcrops cover about 1 percent of the surface. The included soils make up about 15 percent of the map unit.

Permeability in this Windsor soil is rapid or very rapid. The available water capacity is low. Depth to bedrock is more than 60 inches. Potential frost action is low.

Most areas of this soil are farmed. Some areas are wooded. Other areas are used as a source of sand.

This soil is poorly suited to cultivated crops. Erosion is a hazard, and the low available water capacity, or droughtiness, and the equipment limitation are management concerns. Crop rotation, cover cropping, contour farming, and using conservation tillage help to control erosion. Supplemental applications of organic matter help to increase the available water capacity. Contour farming helps to overcome the equipment limitation.

This soil is suited to hay and pasture. Erosion is a hazard, and overgrazing, droughtiness, and the equipment limitation are management concerns. Long term use of this soil for hay or pasture is effective in controlling erosion. Using stocking rates within grazing capacity, using rotational grazing, and, during dry periods, deferred grazing help to maintain a good stand of hay and pasture plants and to control erosion. Planting drought-tolerant plants helps to overcome droughtiness. Seeding, fertilizing, and harvesting hay on the contour helps to overcome the equipment limitation.

The potential productivity for eastern white pine on this soil is high. The main concerns in woodland management are the erosion hazard, the rate of seedling mortality, and the equipment limitation. Laying out skid trails and logging roads across the slope and installing culverts and water bars as necessary help to control erosion. Operating logging equipment across the slope reduces the equipment limitation. Some seedling losses occur during dry periods in summer. Using special planting stock and, in places, special site preparations, such as bedding and furrowing before planting, helps to reduce seedling losses.

Slope is the main limitation to use of this soil as sites for dwellings and septic tank absorption fields. Extensive excavation is needed to prepare nearly level building sites. Special slope design is needed for septic tank

absorption fields. The poor filtering capacity is also a limitation for septic tank absorption fields. If this soil is used as sites for septic tank absorption fields, the ground water can be contaminated because this soil readily absorbs effluent but in most areas does not adequately filter it. Seepage can be monitored by periodically testing wells for possible contamination.

This soil is in capability subclass VIs.

5E—Windsor loamy fine sand, 25 to 60 percent slopes. This is a very deep, steep and very steep, excessively drained soil on terraces dissected by drainageways and on hilltops and ridgetops.

Typically, the surface layer is covered by a layer of forest litter 3 inches thick. The surface layer is very dark grayish brown loamy fine sand 3 inches thick. The subsoil is 23 inches thick. In the upper part it is dark brown loamy fine sand, in the middle part it is olive brown loamy fine sand, and in the lower part it is light olive brown fine sand. The substratum, to a depth of about 60 inches or more, is olive, olive gray, pale olive, and light olive gray sand. In places reaction in the substratum is neutral or the substratum is silt loam.

Included with this soil in mapping are small areas of the well drained Agawam and Unadilla soils, the excessively drained Quonset soils, and the somewhat excessively drained Warwick soils on knolls and ridgetops. In some map units on ridgetops, rock outcrops cover about 1 percent of the surface. The included soils make up about 15 percent of the map unit.

Permeability in this Windsor soil is rapid or very rapid. The available water capacity is low. Depth to bedrock is more than 60 inches. Potential frost action is low.

Almost all areas of this soil are wooded. A few areas are used as a source of sand.

This soil is not suited to cultivated crops, hay, or pasture because of slope.

The potential productivity for eastern white pine on this soil is high. The main concerns in woodland management are the erosion hazard, the rate of seedling mortality, and the equipment limitation. Laying out skid trails and logging roads across the slope and installing culverts and water bars as necessary help to control erosion. Operating logging equipment across the slope reduces the equipment limitation. Some seedling losses can occur during dry periods in summer. Using special planting stock and, in places, special site preparation, such as bedding and furrowing before planting, helps to reduce seedling losses.

This soil is not suited to use as sites for dwellings and septic tank absorption fields because of slope and the poor filtering capacity.

This soil is in capability subclass VIIs.

9B—Deerfield fine sandy loam, 2 to 8 percent slopes. This is a very deep, gently sloping, moderately well drained soil on terraces, on back slopes, and in slight depressions on upland plains.

Typically, the surface layer is dark brown fine sandy loam 8 inches thick. The subsoil is 13 inches thick. In the upper part it is yellowish brown loamy fine sand, and in the lower part it is light olive brown, mottled loamy fine sand. The substratum, to a depth of about 60 inches or more, is dark grayish brown, mottled loamy fine sand and coarse sand and olive gray, mottled sand. In places gravel makes up more than 20 percent of the volume in the substratum or bedrock is at a depth of 20 to 60 inches.

Included with this soil in mapping are small areas of the excessively drained Windsor soils and the well drained Unadilla soils on the tops of knolls. Also included are areas of Belgrade and Walpole soils in depressions and along streams. The included soils make up about 15 percent of the map unit.

Permeability in this Deerfield soil is moderately rapid or rapid in the subsoil and rapid or very rapid in the substratum. The available water capacity is moderate. Depth to bedrock is more than 60 inches. The seasonal high water table is at a depth of 1 1/2 to 3 feet in winter and spring. Potential frost action is moderate.

Most areas of this soil are farmed. Some areas are wooded or are used as a source of sand and gravel.

This soil is suited to cultivated crops. The seasonal high water table is a management concern. In some years spring tillage is delayed because of the seasonal high water table. In areas suitable for outlets, a subsurface drainage system can be used to lower the seasonal high water table.

This soil is well suited to hay and pasture. Erosion is a hazard, and overgrazing and the seasonal high water table are management concerns. Using stocking rates within grazing capacity, using rotational grazing, and, during wet periods, deferred grazing help to maintain a good stand of hay and pasture plants and to control erosion. Planting water-tolerant plants helps to overcome the seasonal high water table.

The potential productivity for eastern white pine on this soil is high. The main concern in woodland management is the rate of seedling mortality. Some seedling losses occur during dry periods in summer. Using special planting stock and, in places, special site preparations, such as bedding and furrowing before planting, helps to reduce seedling losses.

The seasonal high water table is the main limitation to use of this soil as sites for dwellings and septic tank absorption fields. The poor filtering capacity is also a limitation for septic tank absorption fields. In places a suitable fill material is needed to raise the existing grade of the site. Additional waterproofing practices and footing drains are needed to prevent wet basements, but few places are suitable for outlets for drainage systems. If this soil is used as sites for septic tank absorption fields, the ground water can be contaminated because this soil

readily absorbs effluent but in most areas does not adequately filter it. Seepage can be monitored by periodically testing wells for possible contamination.

This soil is in capability subclass IIIw.

10A—Agawam very fine sandy loam, 0 to 3 percent slopes. This is a very deep, nearly level, well drained soil on terraces and upland plains.

Typically, the surface layer is dark brown very fine sandy loam 10 inches thick. The subsoil is very fine sandy loam 15 inches thick. In the upper part it is dark yellowish brown, and in the lower part it is olive brown. The substratum is olive and very dark grayish brown fine sand to a depth of 60 inches or more. In some areas the subsoil is silt loam. In some map units rock fragments make up more than 10 percent of the volume in the surface layer and subsoil.

Included with this soil in mapping are small areas of the excessively drained Windsor and Quonset soils and the somewhat excessively drained Warwick soils on low knolls. Also included are areas of the moderately well drained Deerfield soils and the somewhat poorly drained and poorly drained Walpole soils in depressions. Also included, along streams, are a few small areas of soils that are occasionally flooded. The included soils make up about 15 percent of the map unit.

Permeability in this Agawam soil is moderately rapid in the subsoil and rapid in the substratum. The available water capacity is high. Depth to bedrock is more than 60 inches. Potential frost action is low.

Most areas of this soil are farmed. Some areas are wooded. A few areas are used as a source of sand and gravel.

This soil is well suited to cultivated crops. There are no hazards and very few management concerns.

This soil is well suited to hay and pasture (fig. 9). Overgrazing is a management concern. Using stocking rates within grazing capacity and rotational grazing help to maintain a good stand of hay and pasture plants.

The potential productivity for eastern white pine on this soil is very high. There are few concerns in woodland management.

There are few limitations to use of this soil as sites for dwellings. The poor filtering capacity is the main limitation for septic tank absorption fields. If this soil is used as sites for septic tank absorption fields, the ground water can be contaminated because this soil readily absorbs effluent but in most areas does not adequately filter it. Seepage can be monitored by periodically testing wells for possible contamination.

This soil is in capability class I.

10B—Agawam very fine sandy loam, 3 to 8 percent slopes. This is a very deep and well drained soil on terraces and upland plains.

Figure 9.—An area of Agawam very fine sandy loam, 0 to 3 percent slopes, used for alfalfa.

Typically, the surface layer is dark brown very fine sandy loam 8 inches thick. The subsoil is very fine sandy loam 15 inches thick. In the upper part it is dark yellowish brown, and in the lower part it is olive brown. The substratum is olive fine sand to a depth of 60 inches or more. In some areas the subsoil is silt loam. In some map units rock fragments make up more than 10 percent of the volume in the surface layer and subsoil.

Included with this soil in mapping are small areas of the excessively drained Windsor and Quonset soils and the somewhat excessively drained Warwick soils on low knolls. Also included are areas of the moderately well drained Deerfield soils and the somewhat poorly drained and poorly drained Walpole soils in depressions. Also included, along streams, are a few small areas of soils that are occasionally flooded. The included soils make up about 15 percent of the map unit.

Permeability in this Agawam soil is moderately rapid in the subsoil and rapid in the substratum. The available water capacity is high. Depth to bedrock is more than 60 inches. Potential frost action is low.

Most areas of this soil are farmed. Some areas are wooded. A few areas are used as a source of sand and gravel.

This soil is well suited to cultivated crops. Erosion is a hazard. Crop rotation, cover cropping, contour farming, and using conservation tillage help to control erosion. Installing diversion ditches to divert surface runoff also helps to control erosion.

This soil is well suited to hay and pasture. Erosion is a hazard, and overgrazing is a management concern. Use of this soil for hay or pasture is effective in controlling erosion. Using stocking rates within grazing capacity and rotational grazing help to maintain a good stand of hay and pasture plants and to control erosion.

The potential productivity for eastern white pine on this soil is very high. There are few concerns in woodland management.

There are few limitations to use of this soil as sites for dwellings. The poor filtering capacity is the main limitation for septic tank absorption fields. If this soil is used as sites for septic tank absorption fields, the ground water can be contaminated because this soil readily absorbs effluent but, in most areas, does not adequately filter it. Seepage can be monitored by periodically testing wells for possible contamination.

This soil is in capability subclass IIe.

11B—Berkshire and Monadnock fine sandy loams, 3 to 8 percent slopes. This map unit consists of very deep, gently sloping, well drained soils on the tops and sides of hills, ridges, and mountains. The total acreage of the map unit is about 50 percent Berkshire soils, 35 percent Monadnock soils, and 15 percent other soils. Some areas are mainly Berkshire soils, some are mainly Monadnock soils, and some consist of both. The Berkshire and Monadnock soils were mapped together because they are similar in use and management.

Typically, the surface layer of the Berkshire soils is dark brown fine sandy loam 8 inches thick. The subsoil is fine sandy loam 15 inches thick. In the upper part it is dark brown and dark yellowish brown, and in the lower part it is olive brown. The substratum, to a depth of 60 inches or more, is olive gravelly fine sandy loam.

Typically, the surface layer of the Monadnock soils is dark grayish brown fine sandy loam 8 inches thick. The subsoil is 16 inches thick. In the upper part it is brown fine sandy loam, and in the lower part it is dark yellowish brown gravelly fine sandy loam. The substratum, to a depth of about 60 inches or more, is light olive brown and olive very gravelly loamy sand.

Included with these soils in mapping are small areas of the somewhat excessively drained Lyman soils and the well drained Tunbridge soils on hilltops, ridgetops, and mountaintops. Also included are areas of the well drained Marlow soils on upper side slopes and the somewhat poorly drained Westbury soils on foot slopes, toe slopes, and in slight depressions. The included soils make up about 15 percent of the map unit. In some map units rock outcrops cover about 1 percent of the surface. In a few map units stones cover as much as 3 percent of the surface.

Permeability is moderate or moderately rapid in the Berkshire soils and moderate in the subsoil and moderately rapid in the substratum in the Monadnock soils. The available water capacity is high in the Berkshire soils and moderate in the Monadnock soils. Depth to bedrock is more than 60 inches for both soils. Potential frost action is moderate in the Berkshire soils and low in the Monadnock soils.

Most areas of these soils are farmed. Some areas are wooded.

These soils are well suited to cultivated crops. Erosion is a hazard. Crop rotation, cover cropping, contour farming, and using conservation tillage help to control erosion. Installing diversion ditches to divert surface runoff also helps to control erosion.

These soils are well suited to hay and pasture. Erosion is a hazard and overgrazing is a management concern. Use of these soils for hay and pasture is effective in controlling erosion. Using stocking rates within grazing capacity and rotational grazing help to maintain a good stand of hay and pasture plants and to control erosion.

The potential productivity for eastern white pine is very high on the Berkshire soils and moderate on the Monadnock soils. There are few concerns in woodland management.

There are few limitations to use of these soils as sites for dwellings and septic tank absorption fields.

These soils are in capability subclass IIe.

11C—Berkshire and Monadnock fine sandy loams, 8 to 15 percent slopes. This map unit consists of very

deep, strongly sloping, well drained soils on the tops and sides of hills, ridges, and mountains. The total acreage of the map unit is about 50 percent Berkshire soils, 35 percent Monadnock soils, and 15 percent other soils. Some areas are mainly the Berkshire soils, some are mainly the Monadnock soils, and some consist of both. The Berkshire and Monadnock soils were mapped together because they are similar in use and management.

Typically, the surface layer of the Berkshire soils is dark brown fine sandy loam 7 inches thick. The subsoil is fine sandy loam 15 inches thick. In the upper part it is dark brown and dark yellowish brown, and in the lower part it is olive brown. The substratum, to a depth of 60 inches or more, is olive gravelly fine sandy loam.

Typically, the surface layer of the Monadnock soils is dark grayish brown fine sandy loam 7 inches thick. The subsoil is 16 inches thick. In the upper part it is brown fine sandy loam, and in the lower part it is dark yellowish brown gravelly fine sandy loam. The substratum, to a depth of 60 inches or more, is light olive brown and olive very gravelly loamy sand.

Included with these soils in mapping are small areas of the somewhat excessively drained Lyman soils and the well drained Tunbridge soils on hilltops, ridgetops, and mountaintops. Also included are areas of the well drained Marlow soils on upper side slopes and the somewhat poorly drained Westbury soils on foot slopes, on toe slopes, and in slight depressions. The included soils make up about 15 percent of the map unit. In some map units rock outcrops cover about 1 percent of the surface. In a few map units stones cover as much as 3 percent of the surface.

Permeability is moderate or moderately rapid in the Berkshire soils and moderate in the subsoil and moderately rapid in the substratum in the Monadnock soils. The available water capacity in the Berkshire soils is high and in the Monadnock soils is moderate. Depth to bedrock is more than 60 inches in both soils. Potential frost action is moderate in the Berkshire soils and low in the Monadnock soils.

Most areas of these soils are farmed. Some areas are wooded.

These soils are suited to cultivated crops. Erosion is a hazard. Crop rotation, cover cropping, contour farming, and using conservation tillage help to control erosion. Installing diversion ditches to divert surface runoff also helps to control erosion.

These soils are well suited to hay and pasture. Erosion is a hazard, and overgrazing is a management concern. Use of these soils for hay or pasture is effective in controlling erosion. Using stocking rates within grazing capacity and rotational grazing help to maintain a good stand of hay and pasture plants and to control erosion.

The potential productivity for eastern white pine is very high on the Berkshire soils and high on the Monadnock soils. There are few concerns in woodland management.

Slope is the main limitation to use of these soils as sites for dwellings and septic tank absorption fields. In places excavation and land grading are needed to prepare nearly level sites for dwellings and septic tank absorption fields.

These soils are in capability subclass IIIe.

11D—Berkshire and Monadnock fine sandy loams, 15 to 25 percent slopes. This map unit consists of very deep, steep and very steep, well drained soils on the tops and sides of hills, ridges, and mountains. The total acreage of the map unit is about 50 percent Berkshire soils, 35 percent Monadnock soils, and 15 percent other soils. Some areas are mainly the Berkshire soils, some are mainly the Monadnock soils, and some consist of both. The Berkshire and Monadnock soils were mapped together because they are similar in use and management.

Typically, the surface layer of the Berkshire soils is dark brown fine sandy loam 6 inches thick. The subsoil is fine sandy loam 15 inches thick. In the upper part it is dark brown and dark yellowish brown, and in the lower part it is olive brown. The substratum, to a depth of 60 inches or more, is olive gravelly fine sandy loam.

Typically, the surface layer of the Monadnock soils is dark grayish brown fine sandy loam 6 inches thick. The subsoil is 16 inches thick. In the upper part it is brown fine sandy loam, and in the lower part it is dark yellowish brown gravelly fine sandy loam. The substratum, to a depth of about 60 inches or more, is light olive brown and olive very gravelly loamy sand.

Included with these soils in mapping are small areas of the somewhat excessively drained Lyman soils and the well drained Tunbridge soils on hilltops, ridgetops, and mountaintops. Also included are areas of the well drained Marlow soils on upper side slopes and the somewhat poorly drained Westbury soils on foot slopes and toe slopes and in slight depressions. The included soils make up about 15 percent of the map unit. In some map units rock outcrops cover about 1 percent of the surface. In a few map units stones cover as much as 3 percent of the surface.

Permeability is moderate or moderately rapid in the Berkshire soils and moderate in the subsoil and moderately rapid in the substratum in the Monadnock soils. The available water capacity is high in the Berkshire soils and moderate in the Monadnock soils. Depth to bedrock is more than 60 inches in both soils. Potential frost action is moderate in the Berkshire soils and low in the Monadnock soils.

Most areas of these soils are farmed. Some areas are wooded.

These soils are poorly suited to cultivated crops. Erosion is a hazard, and the equipment limitation is a management concern. Crop rotation, cover cropping, contour farming, and using conservation tillage help to

control erosion. Contour farming helps to overcome the equipment limitation.

These soils are suited to hay and pasture. Erosion is a hazard, and overgrazing and the equipment limitation are management concerns. Long term use of these soils for hay and pasture is effective in controlling erosion. Using stocking rates within grazing capacity and rotational grazing help to maintain a good stand of hay and pasture plants and to control erosion. Seeding, fertilizing, and harvesting hay on the contour help to overcome the equipment limitation.

The potential productivity for eastern white pine is very high on the Berkshire soils and high on the Monadnock soils. The main concerns in woodland management are the erosion hazard and the equipment limitation. Laying out skid trails and logging roads across the slope and installing culverts and water bars as necessary help to control erosion. Operating logging equipment across the slope reduces the equipment limitation.

Slope is the main limitation to use of these soils as sites for dwellings and septic tank absorption fields. Extensive excavation and land grading are needed to prepare nearly level building sites. Special slope design is needed for sites for septic tank absorption fields.

These soils are in capability subclass IVe.

12C—Stratton-Glebe complex, 8 to 15 percent slopes, very rocky. This map unit consists of strongly sloping and well drained soils on mountaintops and side slopes. The shallow Stratton soil is generally on summits, and the moderately deep Glebe soil is on shoulders and back slopes. A typical area of the map unit is about 45 percent Stratton soils, 30 percent Glebe soils, and 25 percent other soils. Stones cover 0.1 to 3 percent of the surface, and rock outcrops cover 1 to 10 percent. The Stratton and Glebe soils are so intermingled that it was not practical to map them separately.

Typically, the surface layer of the Stratton soil is covered by a layer of forest litter about 4 inches thick. The surface layer is black silt loam 2 inches thick. The subsurface layer is dark gray fine sandy loam 2 inches thick. The subsoil is 12 inches thick. In the upper part it is black fine sandy loam, and in the lower part it is dark reddish brown very cobbly fine sandy loam. Bedrock is at a depth of 16 inches.

Typically, the surface layer of the Glebe soil is covered by a layer of forest litter about 3 inches thick. The surface layer is black very fine sandy loam 8 inches thick. The subsoil is 17 inches thick. In the upper part it is dusky red very fine sandy loam, and in the lower part it is dark reddish brown very fine sandy loam. Bedrock is at a depth of 25 inches.

Included with these soils in mapping are small areas of the well drained Londonderry soils on ridgetops, the well drained Rawsonville soils on upper side slopes, the well drained and moderately well drained Mundal soils on lower side slopes, and the poorly drained Wilmington soils and the very poorly drained Markey soils in depressions and along drainageways. The included soils make up 10 to 25 percent of the map unit.

Permeability is moderate or moderately rapid in the Stratton soil and moderately rapid in the Glebe soil. The available water capacity is moderate in the Stratton soil and high in the Glebe soil. Depth to bedrock is 10 to 20 inches in the Stratton soil and 20 to 40 inches in the Glebe soil. Potential frost action is high in both soils.

Almost all areas of these soils are wooded.

These soils are not suited to cultivated crops, hay, or pasture because of rock outcrops, shallowness to rock in the Stratton soil, and stones on the surface.

The potential productivity for red spruce is moderately high on the Stratton soil and high on the Glebe soil. The main concerns in woodland management are the erosion hazard, the equipment limitation, and the windthrow hazard. Laying out skid trails and logging roads across the slope and installing culverts and water bars as necessary help to control erosion. The soils are slippery when wet because of the high content of organic matter in the surface layer and subsoil. Consequently, in places the soils limit the use of logging equipment. Windthrow is a hazard because root growth is limited by depth to bedrock. Selective cutting helps to reduce the windthrow hazard.

Slope and depth to bedrock are the main limitations to use of these soils as sites for dwellings and septic tank absorption fields. In places excavation is needed to prepare nearly level sites for dwellings and septic tank absorption fields. Bedrock limits the ease of deep excavation. In places special construction, such as mounding the septic tank absorption field with a suitable fill material, is needed to raise the absorption field the required distance above bedrock.

These soils are in capability subclass VIIs.

12D—Stratton-Glebe complex, 15 to 25 percent slopes, very rocky. This map unit consists of moderately steep and well drained soils on mountaintops and side slopes. Generally, the shallow Stratton soil is on summits, and the moderately deep Glebe soil is on shoulders and back slopes. A typical area of the map unit is about 45 percent Stratton soil, 35 percent Glebe soil, and 20 percent other soils. Stones cover 0.1 to 3 percent of the surface, and rock outcrops cover 1 to 10 percent. The Stratton and Glebe soils are so intermingled that it was not practical to map them separately.

Typically, the surface layer of the Stratton soil is covered by a layer of forest litter 4 inches thck. The surface layer is black silt loam 2 inches thick. The subsurface layer is dark gray fine sandy loam 2 inches thick. The subsoil is 12 inches thick. In the upper part it is black fine sandy loam, and in the lower part it is dark

reddish brown very cobbly fine sandy loam. Bedrock is at a depth of 16 inches.

Typically, the surface layer of the Glebe soil is covered by a layer of forest litter 3 inches thick. The surface layer is black very fine sandy loam 8 inches thick. The subsoil is 17 inches thick. In the upper part it is dusky red very fine sandy loam, and in the lower part it is dark reddish brown very fine sandy loam. Bedrock is at a depth of 25 inches.

Included with these soils in mapping are small areas of the well drained Londonderry soils on ridgetops, the well drained Rawsonville soils on upper side slopes, the well drained and moderately well drained Mundal soils on lower side slopes, and the poorly drained Wilmington soils and the very poorly drained Markey soils in depressions and along drainageways. The included soils make up 10 to 20 percent of the map unit.

Permeability is moderate or moderately rapid in the Stratton soil and moderately rapid in the Glebe soil. The available water capacity is moderate in the Stratton soil and high in the Glebe soil. Depth to bedrock is 10 to 20 inches in the Stratton soil and 20 to 40 inches in the Glebe soil. Potential frost action is high in both soils.

Almost all areas of these soils are wooded.

These soils are not suited to cultivated crops, hay, or pasture because of rock outcrops, shallowness to bedrock in the Stratton soil, and stones on the surface.

The potential productivity for red spruce is moderately high on the Stratton soil and high on the Glebe soil. The main concerns in woodland management are the erosion hazard, the equipment limitation, the windthrown hazard, and the rate of seedling mortality. Laying out skid trails and logging roads across the slope and installing culverts and water bars as necessary help to control erosion. Operating logging equipment across the slope reduces the equipment limitation caused by slope. The soils become slippery when wet because of the high content of organic matter in the surface layer and subsoil. Consequently, in places they limit the use of logging equipment. Windthrow is a hazard because root growth is limited by depth to bedrock. Selective cutting helps to reduce the windthrow hazard. Using special planting stock and special site preparation helps to reduce seedling losses.

Slope and depth to bedrock are the main limitations to use of these soils as sites for dwellings and septic tank absorption fields. In places extensive excavation is needed to prepare nearly level sites for dwellings and septic tank absorption fields. Bedrock limits the ease of deep excavation. In places special construction, such as mounding the septic tank absorption field with a suitable fill material, is needed to raise the absorption field the required distance above bedrock.

These soils are in capability subclass VIIs.

12E—Stratton-Glebe complex, 25 to 50 percent slopes, very rocky. This map unit consists of steep and very steep and well drained soils on mountaintops and side slopes. Generally, the shallow Stratton soil is on summits and the moderately deep Glebe soil is on shoulders and back slopes. A typical area of the map unit is about 40 percent Stratton soil, 30 percent Glebe soil, and 30 percent other soils. Stones cover 0.1 to 3 percent of the surface, and rock outcrops cover 1 to 10 percent. The Stratton and Glebe soils are so intermingled that it was not practical to map them separately.

Typically, the surface layer of the Stratton soil is covered by a layer of forest litter 4 inches thick. The surface layer is black silt loam 2 inches thick. The subsurface layer is dark gray fine sandy loam 2 inches thick. The subsoil is 12 inches thick. In the upper part it is black fine sandy loam, and in the lower part it is dark reddish brown very cobbly fine sandy loam. Bedrock is at a depth of 16 inches.

Typically, the surface layer of the Glebe soil is covered by a layer of forest litter 3 inches thick. The surface layer is black very fine sandy loam 8 inches thick. The subsoil is 17 inches thick. In the upper part it is dusky red very fine sandy loam and in the lower part it is dark reddish brown very fine sandy loam. Bedrock is at a depth of 25 inches.

Included with these soils in mapping are small areas of the well drained Londonderry soils on ridgetops, the well drained Rawsonville soils on upper side slopes, and the well drained and moderately well drained Mundal soils on lower side slopes. The included soils make up 20 to 30 percent of the map unit.

Permeability is moderate or moderately rapid in the Stratton soil and moderately rapid in the Glebe soil. The available water capacity is moderate in the Stratton soil and high in the Glebe soil. Depth to bedrock is 10 to 20 inches in the Stratton soil and 20 to 40 inches in the Glebe soil. Potential frost action is high in both soils.

Almost all areas of these soils are wooded.

These soils are not suited to cultivated crops, hay, or pasture because of slope, rock outcrops, shallowness to rock in the Stratton soil, and stones on the surface.

The potential productivity for red spruce is moderately high on the Stratton soil and high on the Glebe soil. The main concerns in woodland management are the erosion hazard, the equipment limitation, the windthrow hazard, and the rate of seedling mortality. Laying out skid trails and logging roads across the slope and installing culverts and water bars as necessary help to control erosion. Operating logging equipment across the slope reduces the equipment limitation caused by slope. The soils become slippery when wet because of the high content of organic matter in the surface layer and subsoil. Thus, in places the soils limit the use of logging equipment. Windthrow is a hazard because root growth is limited by depth to bedrock. Selective cutting helps to reduce the windthrow hazard. Using special planting

stock and special site preparation helps to reduce the rate of seedling mortality.

These soils are not suited to use as sites for dwellings and septic tank absorption fields because of slope and shallowness to rock in the Stratton soil.

These soils are in capability subclass VIIs.

16B—Adams loamy fine sand, 2 to 8 percent slopes. This is a very deep, gently sloping, well drained to excessively drained soil on terraces, knolls, and ridges.

Typically, the surface layer of this soil is covered by a layer of forest litter 1 inch thick. The surface layer is very dark grayish brown loamy fine sand 2 inches thick. The subsoil is loamy fine sand 19 inches thick. In the upper part it is dark reddish brown, and in the lower part it is reddish brown and dark yellowish brown. The substratum, to a depth of 60 inches or more, is grayish brown sand. In some map units the surface layer is fine sandy loam or silt loam or the substratum is slightly acid or neutral.

Included with this soil in mapping are areas of the excessively drained Colton soils and the moderately well drained Sheepscot soils. The Colton soils are on hilltops and ridgetops, and the Sheepscot soils are on foot slopes and back slopes. Also included are soils that have a substratum of gravelly sand on hilltops and ridgetops. The included soils make up about 15 percent of the map unit. Also included, along small streams, are a few areas of soils that are occasionally flooded.

Permeability in this Adams soil is rapid in the surface layer and subsoil and is very rapid in the substratum. The available water capacity is low. Depth to bedrock is more than 60 inches. Potential frost action is low.

Most areas of this soil are wooded. A few areas are farmed. Some areas are used as a source of sand.

This soil is suited to cultivated crops. The low available water capacity, or droughtiness, is a management concern. Tillage practices that leave part of the crop residue on the surface and supplemental applications of organic matter help to increase the available water capacity.

This soil is well suited to hay and pasture. Overgrazing and droughtiness are management concerns. Using stocking rates within grazing capacity, using rotational grazing, and, during dry periods, deferred grazing help to maintain a good stand of hay and pasture plants. Planting drought-resistant plants helps to overcome droughtiness.

The potential productivity for eastern white pine on this soil is high. The main concern in woodland management is the rate of seedling mortality. Some seedling losses occur during dry periods in summer. Using special planting stock and, in places, special site preparations, such as bedding and furrowing before planting, helps to reduce seedling losses.

There are few limitations to use of this soil as sites for dwellings. The poor filtering capacity is the main limitation for septic tank absorption fields. If this soil is used as sites for septic tank absorption fields, the ground water can be contaminated because this soil readily absorbs effluent but in most areas does not adequately filter it. Seepage can be monitored by periodically testing wells for possible contamination.

This soil is in capability subclass IIIs.

16C—Adams loamy fine sand, 8 to 15 percent slopes. This is a very deep, strongly sloping, well drained to excessively drained soil on terraces dissected by drainageways and on the tops of knolls and ridges.

Typically, the surface layer of this soil is covered by a layer of forest litter 1 inch thick. The surface layer is very dark grayish brown loamy fine sand 2 inches thick. The subsoil is 19 inches thick. In the upper part it is dark reddish brown loamy fine sand, and in the lower part it is reddish brown and dark yellowish brown loamy fine sand. The substratum, to a depth of 60 inches or more, is grayish brown sand. In some map units the surface layer is fine sandy loam or silt loam or the substratum is slightly acid or neutral.

Included with this soil in mapping are areas of the excessively drained Colton soils on hilltops and ridgetops, and the moderately well drained Sheepscot soils on foot slopes and back slopes. Also included are soils that have a substratum of gravelly sand that are on hilltops and ridgetops. The included soils make up about 15 percent of the map unit.

Permeability in this Adams soil is rapid in the surface layer and subsoil and very rapid in the substratum. The available water capacity is low. Depth to bedrock is more than 60 inches. Potential frost action is low.

Most areas of this soil are wooded. A few areas are farmed. Some areas are used as a source of sand.

This soil is suited to cultivated crops. Erosion is a hazard, and the low available water capacity, or droughtiness, is a management concern. Crop rotation, cover cropping, contour farming, and using conservation tillage help to control erosion. Tillage practices that leave part of the crop residue on the surface and supplemental applications of organic matter help to increase the available water capacity.

This soil is well suited to hay and pasture. Erosion is a hazard, and overgrazing and droughtiness are management concerns. Using stocking rates within grazing capacity, using rotational grazing, and, during dry periods, deferred grazing help to maintain a good stand of hay and pasture plants and to control erosion. Planting drought-tolerant plants also helps to overcome droughtiness.

The potential productivity for eastern white pine on this soil is high. The main concern in woodland management is the rate of seedling mortality. Some seedling losses occur during dry periods in summer. Using special

planting stock and, in places, special site preparations, such as bedding and furrowing before planting, helps to reduce the rate of seedling losses.

Slope is the main limitation to use of this soil as sites for dwellings. In places excavation is needed to prepare nearly level building sites. The poor filtering capacity is the main limitation for septic tank absorption fields. If the soil is used as sites for septic tank absorption fields, the ground water can be contaminated because the soil readily absorbs effluent but in most areas does not adequately filter it. Seepage can be monitored by periodically testing wells for possible contamination.

This soil is in capability subclass IVs.

16D—Adams loamy fine sand, 15 to 25 percent slopes. This is a very deep, moderately steep, and well drained to excessively drained soil on terraces dissected by drainageways and on the tops of knolls and ridges.

Typically, the surface layer of this soil is covered by a layer of forest litter 1 inch thick. The surface layer is very dark grayish brown loamy fine sand 2 inches thick. The subsoil is 19 inches thick. In the upper part it is dark reddish brown loamy fine sand, and in the lower part it is reddish brown and dark yellowish brown loamy fine sand. The substratum, to a depth of 60 inches or more, is grayish brown sand. In some map units the surface layer is fine sandy loam or silt loam or the substratum is slightly acid or neutral.

Included with this soil in mapping are areas of the excessively drained Colton soils on hilltops and ridgetops and the moderately well drained Sheepscot soils on foot slopes and back slopes. Also included are soils that have a substratum of gravelly sand that are on hilltops and ridgetops. The included soils make up about 15 percent of the map unit.

Permeability in this Adams soil is rapid in the surface layer and subsoil and very rapid in the substratum. The available water capacity is low. Depth to bedrock is more than 60 inches. Potential frost action is low.

Most areas of this soil are wooded. A few areas are farmed. Some areas are used as a source of sand.

This soil is poorly suited to cultivated crops. Erosion is a hazard and the low available water capacity, or droughtiness, and the equipment limitation are management concerns. Crop rotation, cover cropping, contour farming, and using conservation tillage help to control erosion. Supplemental applications of organic matter help to increase the available water capacity. Contour farming helps to overcome the equipment limitation.

This soil is suited to hay and pasture. Erosion is a hazard, and overgrazing, droughtiness, and the equipment limitation are management concerns. Long term use of this soil for hay or pasture is effective in controlling erosion. Using stocking rates within grazing capacity, using rotational grazing, and, during dry periods, deferred grazing help to maintain a good stand of hay and pasture plants and to control erosion. Planting drought-tolerant plants helps to overcome droughtiness. Seeding, fertilizing, and harvesting hay on the contour helps to overcome the equipment limitation.

The potential productivity for eastern white pine on this soil is high. The main concerns in woodland management are the erosion hazard, the rate of seedling mortality, and the equipment limitation. Laying out skid trails and logging roads across the slope and installing culverts and water bars as necessary help to control erosion. Operating logging equipment across the slope helps to reduce the equipment limitation. Some seedling losses occur during dry periods in summer. Using special planting stock and, in places, special site preparations, such as bedding and furrowing before planting, helps to reduce seedling losses.

Slope is the main limitation to use of this soil as sites for dwellings and septic tank absorption fields. Extensive excavation is needed to prepare nearly level building sites. Special slope design is needed for sites for septic tank absorption fields. The poor filtering capacity is also a limitation for sites for septic tank absorption fields. If the soil is used as sites for septic tank absorption fields, the ground water can be contaminated because the soil readily absorbs effluent but in most areas does not adequately filter it. Seepage can be monitored by periodically testing wells for possible contamination.

This soil is in capability subclass VIs.

16E—Adams loamy fine sand, 25 to 50 percent slopes. This is a very deep, steep and very steep, well drained to excessively drained soil on terraces dissected by drainageways and on the tops of knolls and ridges.

Typically, the surface layer of this soil is covered by a layer of forest litter 1 inch thick. The surface layer is very dark grayish brown loamy fine sand 2 inches thick. The subsoil is 19 inches thick. In the upper part it is dark reddish brown loamy fine sand, and in the lower part it is reddish brown and dark yellowish brown loamy fine sand. The substratum, to a depth of 60 inches or more, is grayish brown sand. In some map units the surface layer is fine sandy loam or silt loam or the substratum is slightly acid or neutral.

Included with this soil in mapping are areas of the excessively drained Colton soils on hilltops and ridgetops. Also included are soils that have a substratum of gravelly sand that are on hilltops and ridgetops. The included soils make up about 15 percent of the map unit.

Permeability in this Adams soil is rapid in the surface layer and subsoil and very rapid in the substratum. The available water capacity is low. Depth to bedrock is more than 60 inches. Potential frost action is low.

Most areas of this soil are wooded. Some areas are used as a source of sand.

This soil is not suited to cultivated crops, hay, or pasture because of slope.

The potential productivity for eastern white pine on this soil is high. The main concerns in woodland management are the erosion hazard, the rate of seedling mortality, and the equipment limitation. Laying out skid trails and logging roads across the slope and installing culverts and water bars as necessary help to control erosion. Operating logging equipment across the moderately steep slope reduces the equipment limitation. Some seedling losses occur during dry periods in summer. Using special planting stock and, in places, special site preparations, such as bedding and furrowing before planting, helps to reduce seedling losses.

This soil is not suited to use as sites for dwellings and septic tank absorption fields because of slope and the poor filtering capacity.

This soil is in capability subclass VIIs.

17B—Worden loam, 3 to 8 percent slopes. This is a very deep, gently sloping, somewhat poorly drained soil on concave side slopes of hills and ridges, on toe slopes, and in slight depressions.

Typically, the surface layer is very dark grayish brown loam 8 inches thick. The subsoil is 10 inches thick. In the upper part it is dark reddish brown loam, in the middle part it is dark brown, mottled gravelly fine sandy loam, and in the lower part it is olive brown, mottled gravelly fine sandy loam. The substratum is olive brown and dark yellowish brown, mottled, firm gravelly fine sandy loam to a depth of 60 inches or more. In some map units the surface layer and subsoil are loamy sand or loamy fine sand.

Included with this soil in mapping are small areas of the well drained Hogback, Houghtonville, and Rawsonville soils on hilltops and ridgetops and the well drained and moderately well drained Mundal soils on back slopes. Also included are areas of the poorly drained Wilmington soils and the very poorly drained Markey soils in depressions. The included soils make up about 15 percent of the map unit. In some map units stones cover more than 0.1 percent of the surface or rock outcrops cover about 1 percent of the surface.

Permeability in this Worden soil is moderate in the subsoil and slow or moderately slow in the substratum. The available water capacity is moderate. Depth to bedrock is more than 60 inches. The seasonal high water table is perched at a depth of 1 to 1 1/2 feet in autumn, winter, and spring. Potential frost action is high.

Most areas of this soil are farmed. Many areas are wooded.

This soil is suited to cultivated crops. Erosion is a hazard, and the seasonal high water table and the short growing season are management concerns. Crop rotation, cover cropping, contour farming, and using conservation tillage help to control erosion. Installing diversion ditches to divert surface runoff also helps to control erosion. In some years spring tillage is delayed because of the seasonal high water table. A subsurface drainage system can be used to lower the seasonal high water table.

This soil is well suited to hay and pasture. Erosion is a hazard, and overgrazing, the seasonal high water table, and the short growing season are management concerns. Using stocking rates within grazing capacity, using rotational grazing, and, during wet periods, deferred grazing help to maintain a good stand of hay and pasture plants and control erosion. Planting water-tolerant plants helps to overcome the seasonal high water table.

The potential productivity for sugar maple on this soil is moderate. The main concerns in woodland management are the equipment limitation and the windthrow hazard. The soil is slippery when wet because of the high content of organic matter in the surface layer and subsoil. Consequently, the soil limits the use of logging equipment. Logging operations are more efficient during dry periods or when the soil is frozen. Windthrow is a hazard during wet periods because root growth is limited by the firm substratum. Selective cutting helps to reduce the windthrow hazard.

The seasonal high water table is the main limitation to use of this soil as sites for dwellings and septic tank absorption fields. Permeability in the substratum is also a limitation for septic tank absorption fields. In places a suitable fill material is needed to raise the existing grade of the site. Additional waterproofing practices and footing drains are needed to prevent wet basements. In places special construction, such as mounding the septic tank absorption field with a suitable fill material, is needed to raise the absorption field the required distance above the seasonal high water table.

This soil is in capability subclass IIIw.

17C—Worden loam, 8 to 15 percent slopes. This is a very deep, strongly sloping, somewhat poorly drained soil on concave side slopes on hills and ridges.

Typically, the surface layer is covered by a layer of forest litter 5 inches thick. The surface layer is very dark grayish brown loam 7 inches thick. The subsoil is 10 inches thick. In the upper part it is dark reddish brown loam, in the middle part it is dark brown, mottled gravelly fine sandy loam, and in the lower part it is olive brown, mottled gravelly fine sandy loam. The substratum is olive brown and dark yellowish brown, mottled, firm gravelly fine sandy loam to a depth of 60 inches or more. In some map units the surface layer and subsoil are loamy sand or loamy fine sand.

Included with this soil in mapping are small areas of the well drained Hogback, Houghtonville, and Rawsonville soils on hilltops and ridgetops and the well drained and moderately well drained Mundal soils on back slopes. Also included are areas of the poorly drained Wilmington soils in depressions. The included soils make up about 15 percent of the map unit. In some map units stones cover more than 0.1 percent of the

surface or rock outcrops cover about 1 percent of the surface.

Permeability in this Worden soil is moderate in the subsoil and slow or moderately slow in the substratum. The available water capacity is moderate. Depth to bedrock is more than 60 inches. The seasonal high water table is perched at a depth of 1 to 1 1/2 feet in autumn, winter, and spring. Potential frost action is high.

Most areas of this soil are farmed. Many areas are wooded.

This soil is suited to cultivated crops. Erosion is a hazard, and the seasonal high water table and the short growing season are management concerns. Crop rotation, cover cropping, contour farming, and using conservation tillage help to control erosion. Installing diversion ditches to divert surface runoff also helps to control erosion. In some years spring tillage is delayed because of the seasonal high water table. A subsurface drainage system can be used to lower the seasonal high water table.

This soil is well suited to hay and pasture. Erosion is a hazard, and the seasonal high water table and the short growing season are management concerns. Using stocking rates within grazing capacity, using rotational grazing, and, during wet periods, deferred grazing help to maintain a good stand of hay and pasture plants and to control erosion. Planting water tolerant plants helps to overcome the seasonal high water table.

The potential productivity for sugar maple on this soil is moderate. The main concerns in woodland management are the erosion hazard, the equipment limitation, and the windthrow hazard. Laying out skid trails and logging roads across the slope and installing culverts and water bars as necessary help to control erosion. The soil is slippery when wet because of the high content of organic matter in the surface layer and subsoil. Consequently, the soil limits the use of logging equipment. Logging operations are more efficient during dry periods or when the soil is frozen. Windthrow is a hazard during wet periods because root growth is limited by the firm substratum. Selective cutting helps to reduce the windthrow hazard.

Slope and the seasonal high water table are the main limitations to use of this soil as sites for dwellings and septic tank absorption fields. Permeability in the substratum is also a limitation for septic tank absorption fields. In places excavation is needed to prepare nearly level building sites. Additional waterproofing practices and footing drains are needed to prevent wet basements. In places special construction, such as mounding the septic tank absorption field with a suitable fill material, is needed to raise the absorption field the required distance above the seasonal high water table.

This soil is in capability subclass IIIe.

18B—Worden loam, 3 to 8 percent slopes, very bouldery. This is a very deep, gently sloping, somewhat poorly drained soil on concave side slopes of hills and ridges, on toe slopes, and in slight depressions. Boulders and stones cover 0.1 to 3 percent of the surface.

Typically, the surface layer is covered by a layer of forest litter 5 inches thick. The surface layer is very dark grayish brown loam 2 inches thick. The subsoil is 16 inches thick. In the upper part it is dark reddish brown loam, in the middle part it is dark brown, mottled gravelly fine sandy loam, and in the lower part it is olive brown, mottled gravelly fine sandy loam. The substratum is olive brown and dark yellowish brown, mottled, firm gravelly fine sandy loam to a depth of 60 inches or more. In some map units the surface layer and subsoil are loamy sand or loamy fine sand.

Included with this soil in mapping are small areas of the well drained Hogback, Houghtonville, and Rawsonville soils on hilltops and ridgetops and the well drained and moderately well drained Mundal soils on back slopes. Also included are areas of the poorly drained Wilmington soils and the very poorly drained Markey soils in depressions. The included soils make up about 15 percent of the map unit. In some map units boulders and stones cover less than 0.1 percent of the surface or rock outcrops cover about 1 percent of the surface.

Permeability in this Worden soil is moderate in the subsoil and slow or moderately slow in the substratum. The available water capacity is moderate. Depth to bedrock is more than 60 inches. The seasonal high water table is perched at a depth of 1 to 1 1/2 feet in autumn, winter, and spring. Potential frost action is high.

Most areas of the soil are wooded. A few areas are farmed.

This soil is not suited to cultivated crops because of boulders and stones on the surface.

This soil is not suited to hay and poorly suited to pasture because of boulders and stones on the surface. If this soil is used for unimproved pasture, periodic clipping and using rotational grazing help to maintain a good stand of pasture plants.

The potential productivity for sugar maple on this soil is moderate. The main concerns in woodland management are the equipment limitation and the windthrow hazard. The soil is slippery when wet because of the high content of organic matter in the surface layer and subsoil. Consequently, the soil limits the use of logging equipment. Logging operations are more efficient during dry periods or when the soil is frozen. Windthrow is a hazard during wet periods because root growth is limited by the firm substratum. Selective cutting helps to reduce the windthrow hazard.

The seasonal high water table is the main limitation to use of this soil as sites for dwellings and septic tank absorption fields. Permeability in the substratum is a limitation for septic tank absorption fields. In places a suitable fill material is needed to raise the existing grade of the site. Additional waterproofing practices and footing

drains are needed to prevent wet basements. In places special construction, such as mounding the septic tank absorption field with a suitable fill material, is needed to raise the absorption field the required distance above the seasonal high water table.

This soil is in capability subclass VIs.

18C—Worden loam, 8 to 15 percent slopes, very bouldery. This is a very deep, strongly sloping, somewhat poorly drained soil on concave side slopes of hills and ridges. Boulders and stones are on 0.1 to 3 percent of the surface.

Typically, the surface layer of this soil is covered by a layer of forest litter 5 inches thick. The surface layer is very dark grayish brown loam 2 inches thick. The subsoil is 16 inches thick. In the upper part it is dark reddish brown loam, in the middle part it is dark brown, mottled gravelly fine sandy loam, and in the lower part it is olive brown, mottled gravelly fine sandy loam. The substratum is olive brown and dark yellowish brown, mottled, firm gravelly fine sandy loam to a depth of about 60 inches or more. In some map units the surface layer and subsoil are loamy sand or loamy fine sand.

Included with this soil in mapping are small areas of the well drained Hogback, Houghtonville, and Rawsonville soils on hilltops and ridgetops and the well drained and moderately well drained Mundal soils on back slopes. Also included are areas of the poorly drained Wilmington soils in depressions. The included soils make up about 15 percent of the map unit. In some map units boulders and stones cover less than 0.1 percent of the surface or rock outcrops cover about 1 percent of the surface.

Permeability in this Worden soil is moderate in the subsoil and slow or moderately slow in the substratum. The available water capacity is moderate. Depth to bedrock is more than 60 inches. The seasonal high water table is perched at a depth of 1 to 1 1/2 feet in autumn, winter, and spring. Potential frost action is high.

Most areas of this soil are wooded. A few areas are farmed.

This soil is not suited to cultivated crops because of boulders and stones on the surface.

This soil is not suited to hay and poorly suited to pasture because of boulders and stones on the surface. If this soil is used for unimproved pasture, periodic clipping and using rotational grazing help to maintain a good stand of pasture plants (fig. 10).

The potential productivity for sugar maple on this soil is moderate. The main concerns in woodland management are the erosion hazard, the equipment limitation, and the windthrow hazard. Laying out skid trails and logging roads across the slope and installing culverts and water bars as necessary help to control erosion. The soil is slippery when wet because of the high content of organic matter in the surface layer and subsoil. Consequently, the soil limits the use of logging equipment. Logging operations are more efficient in dry periods or when the soil is frozen. Windthrow is a hazard during wet periods because root growth is limited by the firm substratum. Selective cutting helps to reduce the windthrow hazard.

Slope and the seasonal high water table are the main limitations to use of this soil as sites for dwellings and septic tank absorption fields. Permeability in the substratum is also a limitation for septic tank absorption fields. In places excavation is needed to prepare nearly level building sites. Additional waterproofing practices and footing drains are needed to prevent wet basements. In places special construction, such as mounding the septic tank absorption field with a suitable fill material, is needed to raise the absorption field the required distance above the seasonal high water table.

This soil is in capability subclass VIs.

18D—Worden loam, 15 to 25 percent slopes, very bouldery. This is a very deep, moderately steep, somewhat poorly drained soil on concave side slopes of hills and ridges. Boulders and stones cover 0.1 to 3 percent of the surface.

Typically, the surface layer of this soil is covered by a layer of forest litter 5 inches thick. The surface layer is very dark grayish brown loam 8 inches thick. The subsoil is 10 inches thick. In the upper part it is dark reddish brown loam, in the middle part it is dark brown, mottled gravelly fine sandy loam, and in the lower part it is olive brown, mottled gravelly fine sandy loam. The substratum is olive brown and dark yellowish brown, mottled, firm gravelly fine sandy loam to a depth of 60 inches or more. In some map units the surface layer and subsoil are loamy sand or loamy fine sand.

Included with this soil in mapping are small areas of the well drained Hogback, Houghtonville, and Rawsonville soils on hilltops and ridgetops and the well drained and moderately well drained Mundal soils on back slopes. Also included are areas of the poorly drained Wilmington soils in depressions. The included soils make up about 15 percent of the map unit. In some map units boulders and stones cover less than 0.1 percent of the surface or rock outcrops cover about 1 percent.

Permeability in this Worden soil is moderate in the subsoil and slow or moderately slow in the substratum. The available water capacity is moderate. Depth to bedrock is more than 60 inches. The seasonal high water table is perched at a depth of 1 to 1 1/2 feet in autumn, winter, and spring. Potential frost action is high.

Most areas of this soil are wooded. A few areas are farmed.

This soil is not suited to cultivated crops because of boulders and stones on the surface.

This soil is not suited to hay and poorly suited to pasture because of boulders and stones on the surface. If this soil is used for unimproved pasture, periodic

Figure 10.—In the foreground, an area of Worden loam, 8 to 15 percent slopes, very bouldery, used for unimproved pasture. Boulders and stones cover 0.1 to 3 percent of the surface. In the background on hillsides, areas of Worden loam, 8 to 15 percent slopes, Mundal fine sandy loam, 8 to 15 percent slopes, very stony, and Mundal fine sandy loam, 15 to 25 percent slopes, very stony.

clipping and using rotational grazing help to maintain a good stand of pasture plants.

The potential productivity for sugar maple on this soil is moderate. The main concerns in woodland management are the erosion hazard, the equipment limitation, and the windthrow hazard. Laying out skid trails and logging roads across the slope and installing culverts and water bars as necessary help to control erosion. Operating logging equipment across the slope reduces the equipment limitation. The soil is slippery when wet because of the high content of organic matter in the surface layer and subsoil. Consequently, the soil limits the use of logging equipment. Logging operations are more efficient during dry periods or when the soil is frozen. Windthrow is a hazard during wet periods because root growth is limited by the firm substratum. Selective cutting helps to reduce the windthrow hazard.

Slope and the seasonal high water table are the main limitations to use of this soil as sites for dwellings and septic tank absorption fields. Permeability in the firm substratum is also a limitation for septic tank absorption fields. In places extensive excavation is needed to prepare nearly level building sites. Additional waterproofing practices and footing drains are needed to prevent wet basements. In places special construction, such as mounding the septic tank absorption field with a suitable fill material, is needed to raise the absorption field the required distance above the seasonal high water table.

This soil is in capability subclass VIs.

20B—Tunbridge-Lyman fine sandy loams, 3 to 8 percent slopes, very rocky. This map unit consists of gently sloping soils on the summits, shoulders, and back slopes of hills, ridges, and mountains. The moderately deep, well drained Tunbridge soil is generally on shoulders and back slopes and the shallow, somewhat excessively drained Lyman soil is on summits and shoulders. A typical area of the map unit is about 50 percent Tunbridge soil, 30 percent Lyman soil, and 20 percent other soils. Stones cover 0.1 to 3 percent of the surface, and rock outcrops cover 1 to 10 percent. The Tunbridge and Lyman soils are so intermingled that it was not practical to map them separately.

Typically, the surface layer of the Tunbridge soil is covered by a layer of forest litter 1 inch thick. The surface layer is dark brown fine sandy loam 2 inches thick. The subsoil is fine sandy loam 25 inches thick. In the upper part it is dark reddish brown, and in the lower part it is dark brown. Bedrock is at a depth of 27 inches.

Typically, the surface layer of the Lyman soil is covered by a layer of forest litter 2 inches thick. The surface layer is very dark grayish brown fine sandy loam 5 inches thick. The subsoil is 10 inches thick. In the upper part it is dark brown fine sandy loam, in the middle part it is dark yellowish brown fine sandy loam, and in the lower part it is dark yellowish brown gravelly fine sandy loam. Bedrock is at a depth of 15 inches.

Included with these soils in mapping are small areas of the well drained Berkshire, Monadnock, and Marlow soils on back slopes. Also included are areas of the somewhat poorly drained Westbury soils and the very poorly drained Markey soils in depressions. The included soils make up 10 to 20 percent of the map unit. In some areas of the map unit rock outcrops cover 10 to 25 percent of the surface.

Permeability is moderate or moderately rapid in the Tunbridge soil and moderately rapid in the Lyman soil. The available water capacity is moderate in the Tunbridge soil and very low in the Lyman soil. Depth to bedrock is 20 to 40 inches in the Tunbridge soil and 10 to 20 inches in the Lyman soil. Potential frost action is high in both soils.

Most areas of these soils are wooded. A few areas are farmed.

These soils are not suited to cultivated crops because of rock outcrops, shallowness to rock in the Lyman soil, and stones on the surface.

These soils are not suited to hay and poorly suited to pasture because of rock outcrops and stones on the surface. If these soils are used for unimproved pasture, periodic clipping and using rotational grazing help to maintain a good stand of pasture plants.

The potential productivity for sugar maple on these soils is moderate. The main concern in woodland management is the windthrow hazard. Windthrow is a hazard because root growth is limited by depth to bedrock. Selective cutting helps to reduce the windthrow hazard. On the Lyman soil, the rate of seedling mortality is also a concern. Some seedling losses occur during dry periods in summer. Using special planting stock and, in places, special site preparations, such as bedding and furrowing before planting, helps to reduce seedling losses.

Depth to bedrock is the main limitation to use of these soils as sites for dwellings and septic tank absorption fields. Bedrock limits the ease of deep excavation. In places special construction, such as mounding the septic tank absorption field with a suitable fill material, is needed to raise the absorption field the required distance above bedrock.

These soils are in capability subclass VIs.

20C—Tunbridge-Lyman fine sandy loams, 8 to 15 percent slopes, very rocky. This map unit consists of strongly sloping soils on the summits, shoulders, and back slopes of hills, ridges, and mountains. The moderately deep, well drained Tunbridge soil is generally on shoulders and back slopes, and the shallow, somewhat excessively drained Lyman soil is on summits and shoulders. A typical area of the map unit is about 45 percent Tunbridge soil, 30 percent Lyman soil, and 25 percent other soils. Stones cover 0.1 to 3 percent of the surface, and rock outcrops cover 1 to 10 percent. The Tunbridge and Lyman soils are so intermingled that it was not practical to map them separately.

Typically, the surface layer of the Tunbridge soil is covered by a layer of forest litter 1 inch thick. The surface layer is dark brown fine sandy loam 2 inches thick. The subsoil is fine sandy loam 25 inches thick. In the upper part it is dark reddish brown, and in the lower part it is dark brown. Bedrock is at a depth of 27 inches.

Typically, the surface layer of the Lyman soil is covered by a layer of forest litter 2 inches thick. The surface layer is very dark grayish brown fine sandy loam 5 inches thick. The subsoil is 10 inches thick. In the upper part it is dark brown fine sandy loam, in the middle part it is dark yellowish brown fine sandy loam, and in the lower part it is dark yellowish brown gravelly fine sandy loam. Bedrock is at a depth of 15 inches.

Included with these soils in mapping are small areas of the well drained Berkshire, Monadnock, and Marlow soils on back slopes. Also included are areas of the somewhat poorly drained Westbury soils and the very poorly drained Markey soils in depressions. The included soils make up 15 to 25 percent of the map unit. In some areas of the map unit rock outcrops cover 10 to 25 percent of the surface.

Permeability is moderate or moderately rapid in the Tunbridge soil and moderately rapid in the Lyman soil. The available water capacity is moderate in the Tunbridge soil and very low in the Lyman soil. Depth to bedrock is 20 to 40 inches in the Tunbridge soil and 10 to 20 inches in the Lyman soil. Potential frost action is high in both soils.

Most areas of these soils are wooded. A few areas are farmed.

These soils are not suited to cultivated crops because of rock outcrops, shallowness to rock in the Lyman soil, and stones on the surface.

These soils are not suited to hay and poorly suited to pasture because of rock outcrops and stones on the surface. If these soils are used for unimproved pasture, periodic clipping and using rotational grazing help to maintain a good stand of pasture plants.

The potential productivity for sugar maple on these soils is moderate. The main concern in woodland management is the windthrow hazard. Windthrow is a hazard because root growth is limited by depth to bedrock. Selective cutting helps to reduce the windthrow hazard. On the Lyman soil, the rate of seedling mortality is also a concern. Some seedling losses occur during dry periods in summer. Using special planting stock and, in places, special site preparations, such as bedding and furrowing before planting, helps to reduce seedling losses.

Slope and depth to bedrock are the main limitations to use of these soils as sites for dwellings and septic tank absorption fields. In places excavation is needed to prepare nearly level building sites. Bedrock limits the ease of deep excavation. Special construction, such as mounding the septic tank absorption field with a suitable fill material, is needed to raise the absorption field the required distance above bedrock.

This soil is in capability subclass VIs.

20D—Tunbridge-Lyman fine sandy loams, 15 to 25 percent slopes, very rocky. This map unit consists of moderately steep soils on the summits, shoulders, and back slopes of hills, ridges, and mountains. The moderately deep, well drained Tunbridge soil generally is on shoulders and back slopes, and the shallow, somewhat excessively drained Lyman soil is on summits and shoulders. A typical area of the map unit is about 50 percent Tunbridge soil, 35 percent Lyman soil, and 15 percent other soils. Stones cover 0.1 to 3 percent of the surface, and rock outcrops cover 1 to 10 percent. The Tunbridge and Lyman soils are so intermingled that it was not practical to map them separately.

Typically, the surface layer of the Tunbridge soil is covered by a layer of forest litter 1 inch thick. The surface layer is dark brown fine sandy loam 2 inches thick. The subsoil is fine sandy loam 25 inches thick. In the upper part it is dark reddish brown, and in the lower part it is dark brown. Bedrock is at a depth of 27 inches.

Typically, the surface layer of the Lyman soil is covered by a layer of forest litter 2 inches thick. The surface layer is very dark grayish brown fine sandy loam 5 inches thick. The subsoil is 10 inches thick. In the upper part it is dark brown fine sandy loam, in the middle part it is dark yellowish brown fine sandy loam, and in the lower part it is dark yellowish brown gravelly fine sandy loam. Bedrock is at a depth of 15 inches.

Included with these soils in mapping are small areas of the well drained Berkshire, Monadnock, and Marlow soils on back slopes. Also included are areas of the somewhat poorly drained Westbury soils in depressions. The included soils make up 5 to 15 percent of the map unit. In some areas of the map unit rock outcrops cover 10 to 25 percent of the surface.

Permeability is moderate or moderately rapid in the Tunbridge soil and moderately rapid in the Lyman soil. The available water capacity is moderate in the Tunbridge soil and very low in the Lyman soil. Depth to bedrock is 20 to 40 inches in the Tunbridge soil and 10 to 2 inches in the Lyman soil. Potential frost action is high in both soils.

Most areas of these soils are wooded. A few areas are farmed.

These soils are not suited to cultivated crops because of rock outcrops, shallowness to rock in the Lyman soil, and stones on the surface.

These soils are not suited to hay and poorly suited to pasture because of rock outcrops and stones on the surface. If these soils are used for unimproved pasture, periodic clipping and using rotational grazing help to maintain a good stand of pasture plants.

The potential productivity for sugar maple on these soils is moderate. The main concerns in woodland management are the erosion hazard and the equipment limitation. Laying out skid trails and logging roads across the slope and installing culverts and water bars as needed help to control erosion. Operating logging equipment across the slope reduces the equipment limitation. On the Lyman soil, the rate of seedling mortality and the windthrow hazard are also concerns. Some seedling losses occur during dry periods in summer. Using special planting stock and, in places, special site preparations, such as bedding and furrowing before planting, helps to reduce seedling losses. Windthrow is a hazard because root growth is limited by depth to bedrock. Selective cutting helps to reduce the windthrow hazard.

Slope and depth to bedrock are the main limitations to use of these soils as sites for dwellings and septic tank absorption fields. In places extensive excavation is needed to prepare nearly level building sites. Bedrock limits the ease of deep excavation. In places special construction, such as mounding the septic tank absorption field with a suitable fill material, is needed to raise the absorption field the required distance above bedrock.

These soils are in capability subclass VIs.

20E—Tunbridge-Lyman fine sandy loams, 25 to 50 percent slopes, very rocky. This map unit consists of steep and very steep soils on the summits, shoulders, and back slopes of hills, ridges, and mountains. The

moderately deep, well drained Tunbridge soil generally is on shoulders and back slopes and the shallow, somewhat excessively drained Lyman soil is on summits and shoulders. A typical area of the map unit is about 50 percent Tunbridge soil, 30 percent Lyman soil, and 20 percent other soils. Stones cover 0.1 to 3 percent of the surface, and rock outcrops cover 1 to 10 percent. The Tunbridge and Lyman soils are so intermingled that it was not practical to map them separately.

Typically, the surface layer of the Tunbridge soil is covered by a layer of forest litter 1 inch thick. The surface layer is dark brown fine sandy loam 2 inches thick. The subsoil is fine sandy loam 25 inches thick. In the upper part it is dark reddish brown and in the lower part it is dark brown. Bedrock is at a depth of 27 inches.

Typically, the surface layer of the Lyman soil is covered by a layer of forest litter 2 inches thick. The surface layer is very dark grayish brown fine sandy loam 5 inches thick. The subsoil is 10 inches thick. In the upper part it is dark brown fine sandy loam, in the middle part it is dark yellowish brown fine sandy loam, and in the lower part it is dark yellowish brown gravelly fine sandy loam. Bedrock is at a depth of 15 inches.

Included with these soils in mapping are small areas of the well drained Berkshire, Monadnock, and Marlow soils on back slopes. The included soils make up 10 to 20 percent of the map unit. In some areas of the map unit bedrock outcrops cover 10 to 25 percent of the surface.

Permeability is moderate or moderately rapid in the Tunbridge soil and moderately rapid n the Lyman soil. The available water capacity is moderate in the Tunbridge soil and very low in the Lyman soil. Depth to bedrock is 20 to 40 inches in the Tunbridge soil and 10 to 20 inches in the Lyman soil. Potential frost action is high in both soils.

Almost all areas of these soils are wooded.

These soils are not suited to cultivated crops, hay, or pasture because of slope and rock outcrops.

The potential productivity for sugar maple on these soils is moderate. The main concerns in woodland management are the erosion hazard and the equipment limitation. Laying out skid trails and logging roads across the slope and installing culverts and water bars as necessary help to control erosion. Operating logging equipment across the slope reduces the equipment limitation. On the Lyman soil, the rate of seedling mortality and the windthrow hazard are also concerns. Some seedling losses can occur during dry periods in summer. Using special planting stock and, in places, special site preparations, such as bedding and furrowing before planting, helps to reduce seedling losses. Windthrow is a hazard because root growth is limited by depth to bedrock. Selective cutting helps to minimize the windthrow hazard.

These soils are not suited to use as sites for dwellings and septic tank absorption fields because of slope and depth to bedrock.

These soils are in capability subclass VIIs.

21B—Marlow fine sandy loam, 3 to 8 percent slopes. This is a very deep, gently sloping, well drained soil on the summits, shoulders, and back slopes of hills, ridges, and mountains.

Typically, the surface layer of this soil is dark grayish brown fine sandy loam 9 inches thick. The subsoil is 21 inches thick. In the upper part it is dark brown fine sandy loam, in the middle part it is dark yellowish brown gravelly fine sandy loam, and in the lower part it is olive brown and olive gravelly fine sandy loam. The substratum, to a depth of 60 inches or more, is olive gray, very firm gravelly fine sandy loam. In some map units the subsoil is reddish or mottled. In a few map units the substratum is very firm, loamy sand or silt loam.

Included with this soil in mapping are small areas of the somewhat excessively drained Lyman soils and the well drained Tunbridge, Berkshire, and Monadnock soils on back slopes, shoulders, and summits. Also included are areas of the somewhat poorly drained Westbury soils and areas of poorly drained soils in depressions and along drainageways. The included soils make up about 25 percent of the map unit. In some map units stones cover as much as 3 percent of the surface.

Permeability in this Marlow soil is moderate in the subsoil and slow to moderately slow in the substratum. The available water capacity is moderate. The seasonal high water table is perched at a depth of 2 to 3 1/2 feet in spring. Depth to bedrock is more than 60 inches. Potential frost action is moderate.

Most areas of this soil are farmed. Some areas are wooded.

This soil is well suited to cultivated crops. Erosion is a hazard. Crop rotation, cover cropping, contour farming, and using conservation tillage help to control erosion. Installing diversion ditches to divert surface runoff also helps to control erosion.

The potential productivity for eastern white spine on this soil is high. There are few concerns in woodland management.

The seasonal high water table is the main limitation to use of this soil as sites for dewllings and septic tank absorption fields. Permeability in the substratum is also a limitation for septic tank absorption fields. In places a suitable fill material is needed to raise the existing grade of the site. Additional waterproofing practices and footing drains are needed to prevent wet basements. In places special construction, such as mounding the septic tank absorption field with a suitable fill material, is needed to raise the absorption field the required distance above the seasonal high water table.

This soil is in capability subclass IIe.

21C—Marlow fine sandy loam, 8 to 15 percent slopes. This is a very deep, strongly sloping, well

drained soil on the summits, shoulders, and back slopes of hills, ridges, and mountains.

Typically, the surface layer of this soil is dark grayish brown fine sandy loam 7 inches thick. The subsoil is 21 inches thick. In the upper part it is dark brown fine sandy loam, in the middle part it is dark yellowish brown gravelly fine sandy loam, and in the lower part it is olive brown and olive gravelly fine sandy loam. The substratum, to a depth of 60 inches or more, is olive gray, very firm gravelly fine sandy loam. In some map units the subsoil is reddish or mottled. In a few map units the substratum is very firm, loamy sand or silt loam.

Included with this soil in mapping are small areas of the somewhat excessively drained Lyman soils and the well drained Tunbridge, Berkshire, and Monadnock soils on back slopes, shoulders, and summits. Also included are areas of the somewhat poorly drained Westbury soils and areas of poorly drained soils in depressions and along drainageways. The included soils make up about 25 percent of the map unit. In some map units stones cover as much as 3 percent of the surface.

Permeability in this Marlow soil is moderate in the subsoil and slow to moderately slow in the substratum. The available water capacity is moderate. The seasonal high water table is perched at a depth of 2 to 3/1/2/ feet in spring. Depth to bedrock is more than 60 inches. Potential frost action is moderate.

Most areas of this soil are farmed. Some areas are wooded.

This soil is suited to cultivated crops. Erosion is a hazard. Crop rotation, cover cropping, contour farming, and using conservation tillage help to control erosion. Installing diversion ditches to divert surface runoff also helps to control erosion.

This soil is well suited to hay and pasture. Erosion is a hazard, and overgrazing is a management concern. Use of this soil for hay or pasture is effective in controlling erosion. Using stocking rates within grazing capacity and rotational grazing help to maintain a good stand of hay and pasture plants and to control erosion.

The potential productivity for eastern white pine on this soil is high. There are few concerns in woodland management.

Slope and the seasonal high water table are the main limitations to use of this soil as sites for dwellings and septic tank absorption fields. Permeability in the substratum is also a limitation for septic tank absorption fields. In places excavation is needed to prepare nearly level building sites. Additional waterproofing practices and footing drains are needed to prevent wet basements. In places special construction, such as mounding the septic tank absorption field with a suitable fill material, is needed to raise the absorption field the required distance above the seasonal high water table.

This soil is in capability subclass IIIe.

21D—Marlow fine sandy loam, 15 to 25 percent slopes. This is a very deep, moderately steep, well drained soil on the summits, shoulders, and back slopes of hills, ridges, and mountains.

Typically, the surface layer is dark grayish brown fine sandy loam 6 inches thick. The subsoil is 21 inches thick. In the upper part it is dark brown fine sandy loam, the middle part it is dark yellowish brown gravelly fine sandy loam, and in the lower part it is olive brown and olive gravelly fine sandy loam. The substratum, to a depth of 60 inches or more, is olive gray, very firm gravelly fine sandy loam. In some map units the subsoil is reddish or mottled. In a few map units the substratum is very firm, loamy sand or silt loam.

Included with this soil in mapping are small areas of the somewhat excessively drained Lyman soils and the well drained Tunbridge, Berkshire, and Monadnock soils on back slopes, shoulders, and summits. Also included are areas of the somewhat poorly drained Westbury soils and areas of poorly drained soils in depressions and along drainageways. The included soils make up about 25 percent of the map unit. In some map units stones cover as much as 3 percent of the surface.

Permeability in this Marlow soil is moderate in the subsoil and slow to moderately slow in the substratum. The available water capacity is moderate. The seasonal high water table is perched at a depth of 2 to 3/1/2/ feet in spring. Depth to bedrock is more than 60 inches. Potential frost action is moderate.

Most areas of this soil are farmed. Some areas are wooded.

This soil is poorly suited to cultivated crops. Erosion is a hazard, and the equipment limitation is a management concern. Crop rotation, cover cropping, contour farming, and using conservation tillage help to control erosion. Contour farming helps to overcome the equipment limitation.

This soil is suited to hay and pasture. Erosion is a hazard, and overgrazing and the equipment limitation are management concerns. Long term use of this soil for hay or pasture is effective in controlling erosion. Using stocking rates within grazing capacity and rotational grazing help to maintain a good stand of hay and pasture plants and to control erosion. Seeding, fertilizing, and harvesting hay on the contour help to overcome the equipment limitation.

The potential productivity for eastern white pine on this soil is high. The main concerns in woodland management are the erosion hazard and the equipment limitation. Laying out skid trails and logging roads across the slope and installing culverts and water bars as necessary help to control erosion. Operating logging equipment across the slope reduces the equipment limitation.

Slope and the seasonal high water table are the main limitations to use of this soil as sites for dwellings and septic tank absorption fields. Permeability is also a

limitation for septic tank absorption fields. In places extensive excavation is needed to prepare nearly level building sites. Additional waterproofing practices and footing drains are needed to prevent wet basements. In places special construction, such as mounding the septic tank absorption field with a suitable fill material, is needed to raise the absorption field the required distance above the seasonal high water table.

This soil is in capability subclass IVe.

22B—Marlow fine sandy loam, 3 to 8 percent slopes, very stony. This is a very deep, gently sloping, well drained soil on the summits, shoulders, and back slopes of hills, ridges, and mountains. Stones are on 0.1 to 3 percent of the surface.

Typically, the surface layer of this soil is covered by a layer of forest litter 2 inches thick. The surface layer is black fine sandy loam 1 inch thick. The subsurface layer is gray fine sandy loam 1 inch thick. The subsoil is 28 inches thick. In the upper part it is dark brown fine sandy loam, in the middle part it is dark yellowish brown gravelly fine sandy loam, and in the lower part it is olive brown and olive gravelly fine sandy loam. The substratum is olive gray, very firm gravelly fine sandy loam to a depth of 60 inches or more. In some map units the subsoil is reddish or mottled. In a few map units the substratum is very firm, loamy sand or silt loam.

Included with this soil in mapping are small areas of the somewhat excessively drained Lyman soils and the well drained Tunbridge, Berkshire, and Monadnock soils on back slopes, shoulders, and summits. Also included are areas of the somewhat poorly drained Westbury soils and areas of poorly drained soils in depressions and along drainageways. The included soils make up about 25 percent of the map unit. In some map units stones cover less than 0.1 percent of the surface.

Permeability in this Marlow soil is moderate in the subsoil and slow to moderately slow in the substratum. The available water capacity is moderate. The seasonal high water table is perched at a depth of 2 to 3 1/2 feet in spring. Depth to bedrock is more than 60 inches. Potential frost action is moderate.

Most areas of this soil are wooded. Some areas are farmed.

This soil is not suited to cultivated crops because of stones on the surface.

This soil is not suited to hay and poorly suited to pasture because of stones on the surface. If this soil is used for unimproved pasture, periodic clipping and using rotational grazing help to maintain a good stand of pasture plants.

The potential productivity for eastern white pine on this soil is high. There are few concerns in woodland management.

The seasonal high water table is the main limitation to use of this soil as sites for dwellings and septic tank absorption fields. Permeability in the substratum is also a limitation for septic tank absorption fields. In places a suitable fill material is needed to raise the existing grade of the site. Additional waterproofing practices and footing drains are needed to prevent wet basements. In places special construction, such as mounding the septic tank absorption field with a suitable fill material, is needed to raise the absorption field the required distance above the seasonal high water table.

This soil is in capability subclass VIs.

22C—Marlow fine sandy loam, 8 to 15 percent slopes, very stony. This soil is a very deep, strongly sloping, and well drained soil on the summits, shoulders, and back slopes of hills, ridges, and mountains. Stones are on 0.1 to 3 percent of the surface.

Typically, the surface layer of this soil is covered by a layer of forest litter 2 inches thick. The surface layer is black fine sandy loam 1 inch thick. The subsurface layer is gray fine sandy loam 1 inch thick. The subsoil is 28 inches thick. In the upper part it is dark brown fine sandy loam, in the middle part it is dark yellowish brown gravelly fine sandy loam, and in the lower part it is olive brown and olive gravelly fine sandy loam. The substratum is olive gray, very firm gravelly fine sandy loam to a depth of 60 inches or more. In some map units the subsoil is reddish or mottled. In a few map units the substratum is very firm, loamy sand or silt loam.

Included with this soil in mapping are small areas of the somewhat excessively drained Lyman soils and the well drained Tunbridge, Berkshire, and Monadnock soils on back slopes, shoulders, and summits. Also included are areas of the somewhat poorly drained Westbury soils and areas of poorly drained soils in depressions and along drainageways. The included soils make up about 25 percent of the map unit. In some map units stones cover less than 0.1 percent of the surface.

Permeability in the Marlow soil is moderate in the subsoil and slow to moderately slow in the substratum. The available water capacity is moderate. The seasonal high water table is perched at a depth of 2 to 3 1/2 feet in spring. Depth to bedrock is more than 60 inches. Potential frost action is moderate.

Most areas of this soil are wooded. Some areas are farmed.

This soil is not suited to cultivated crops because of stones on the surface.

This soil is not suited to hay and poorly suited to pasture because of stones on the surface. If this soil is used for unimproved pasture, periodic clipping and using rotational grazing help to maintain a good stand of pasture plants.

The potential productivity for eastern white pine on this soil is high. There are few concerns in woodland management.

Slope and the seasonal high water table are the main limitations to use of this soil as sites for dwellings and septic tank absorption fields. Permeability in the

substratum is also a limitation for septic tank absorption fields. In places excavation is needed to prepare nearly level building sites. Additional waterproofing practices and footing drains are needed to prevent wet basements. In places special construction, such as mounding the septic tank absorption field with a suitable fill material, is needed to raise the absorption field the required distance above the seasonal high water table.

This soil is in capability subclass VIs.

22D—Marlow fine sandy loam, 15 to 25 percent slopes, very stony. This is a very deep, moderately steep, well drained soil on the summits, shoulders, and back slopes of hills, ridges, and mountains. Stones cover 0.1 to 3 percent of the surface.

Typically, the surface layer of this soil is covered by a layer of forest litter 2 inches thick. The surface layer is black fine sandy loam 1 inch thick. The subsurface layer is gray fine sandy loam 1 inch thick. The subsoil is 28 inches thick. In the upper part it is dark brown fine sandy loam, in the middle part it is dark yellowish brown gravelly fine sandy loam, and in the lower part it is olive brown and olive gravelly fine sandy loam. The substratum is olive gray, very firm gravelly fine sandy loam to a depth of 60 inches or more. In some map units the subsoil is reddish or mottled. In a few map units the substratum is very firm, loamy sand or silt loam.

Included with this soil in mapping are small areas of the somewhat excessively drained Lyman soils and the well drained Tunbridge, Berkshire, and Monadnock soils on back slopes, shoulders, and summits. Also included are areas of the somewhat poorly drained Westbury soils and areas of poorly drained soils in depressions and along drainageways. The included soils make up about 25 percent of the map unit. In some map units stones cover less than 0.1 percent of the surface.

Permeability in this Marlow soil is moderate in the subsoil and slow to moderately slow in the substratum. The available water capacity is moderate. The seasonal high water table is perched at a depth of 2 to 3 1/2 feet in spring. Depth to bedrock is more than 60 inches. Potential frost action is moderate.

Most areas of this soil are wooded. Some areas are farmed.

This soil is not suited to cultivated crops because of stones on the surface.

This soil is not suited to hay and poorly suited to pasture because of stones on the surface. If this soil is used for unimproved pasture, periodic clipping and using rotational grazing help to maintain a good stand of pasture plants.

The potential productivity for eastern white pine on this soil is high. The main concerns in woodland management are the erosion hazard and the equipment limitation. Laying out skid trails and logging roads across the slope and installing culverts and water bars as necessary help to control erosion. Operating logging equipment across the slope reduces the equipment limitation.

Slope and the seasonal high water table are the main limitations to use of this soil as sites for dwellings and septic tank absorption fields. Permeability in the substratum is also a limitation for sites for septic tank absorption fields. In places extensive excavation is needed to prepare nearly level building sites. Additional waterproofing practices and footing drains are needed to prevent wet basements. In places special construction, such as mounding the septic tank absorption field with a suitable fill material, is needed to raise the absorption field the required distance above the seasonal high water table.

This soil is in capability subclass VIs.

22E—Marlow fine sandy loam, 25 to 50 percent slopes, very stony. This is a very deep, steep very steep, and well drained soil on the summits, shoulders, and back slopes of hills, ridges, and mountains. Stones are on 0.1 to 3 percent of the surface.

Typically, the surface layer of this soil is covered by a layer of forest litter 2 inches thick. The surface layer is black fine sandy loam 1 inch thick. The subsurface layer is gray fine sandy loam 1 inch thick. The subsoil is 28 inches thick. In the upper part it is dark brown fine sandy loam, in the middle part it is dark yellowish brown gravelly fine sandy loam, and in the lower part it is olive brown and olive gravelly fine sandy loam. The substratum is olive gray, very firm gravelly fine sandy loam to a depth of 60 inches or more. In some map units the subsoil is reddish or mottled. In a few map units the substratum is very firm, loamy sand or silt loam.

Included with this soil in mapping are small areas of the somewhat excessively drained Lyman soils and the well drained Tunbridge, Berkshire, and Monadnock soils on back slopes, shoulders, and summits. The included soils make up about 15 percent of the map unit. In some map units stones cover less than 0.1 percent of the surface.

Permeability in this Marlow soil is moderate in the subsoil and slow or moderately slow in the substratum. The available water capacity is moderate. The seasonal high water table is perched at a depth of 2 to 3 1/2 feet in spring. Depth to bedrock is more than 60 inches. Potential frost action is moderate.

Almost all areas of this soil are wooded.

This soil is not suited to cultivated crops, hay, or pasture because of slope of the soils and stones on the surface.

The potential productivity for eastern white pine on this soil is high. The main concerns in woodland management are the erosion hazard and the equipment limitation. Laying out skid trails and logging roads across the slope and installing culverts and water bars as necessary help to control erosion. Operating logging

equipment across the slope reduces the equipment limitation.

This soil is not suited to use as sites for dwellings and septic tank absorption fields because of slope.

This soil is in capability subclass VIIs.

23—Ondawa fine sandy loam. This is a very deep, nearly level, well drained soil on flood plains. It is occasionally flooded by stream overflow for brief periods. Slope ranges from 0 to 3 percent.

Typically, the surface layer of this soil is dark brown fine sandy loam 6 inches thick. The subsoil is fine sandy loam 20 inches thick. In the upper part it is dark yellowish brown, in the middle part it is yellowish brown, and in the lower part it is dark brown. The substratum is yellowish brown and dark yellowish brown loamy fine sand to a depth of 60 inches or more. In some map units the substratum is very fine sandy loam or silt loam.

Included with this soil in mapping are small areas of the moderately well drained Podunk soils and the poorly drained Rumney soils in depressions. In some map units recent deposits of sand, gravel, or cobbles are on the surface. The included soils make up about 15 percent of the map unit.

Permeability in this Ondawa soil is moderately rapid in the subsoil and moderately rapid or rapid in the substratum. The available water capacity is high. Depth to bedrock is more than 60 inches. Potential frost action is moderate.

Most areas of this soil are farmed. A few areas are wooded.

This soil is well suited to cultivated crops. Flooding is a hazard. In some years flooding, which lasts for short periods and usually occurs in spring, delays spring tillage. Stubble mulching and cover cropping help to control erosion by floodwater. Land shaping to provide good surface drainage allows tillage soon after flooding. Maintaining streambanks in permanent protective cover helps to control stream bank erosion.

This soil is well suited to hay and pasture. Flooding is a hazard, and overgrazing is a management concern. Using stocking rates within grazing capacity and rotational grazing help to maintain a good stand of hay and pasture plants and to control erosion caused by floodwater.

The potential productivity for eastern white pine on this soil is high. There are few concerns in woodland management.

Flooding is a limitation to use of this soil as sites for dwellings and septic tank absorption fields. If the soil is used as sites for septic tank absorption fields, the ground water can be contaminated because the soil readily absorbs effluent but does not adequately filter it. Seepage can be monitored by periodically testing wells for possible contamination.

This soil is in capability class I.

24—Podunk fine sandy loam. This is a very deep, nearly level, moderately well drained soil on flood plains. It is occasionally flooded by stream overflow for brief periods. Slope ranges from 0 to 3 percent.

Typically, the surface layer of this soil is very dark grayish brown fine sandy loam 8 inches thick. The subsoil is fine sandy loam 22 inches thick. In the upper part it is olive brown, and in the lower part it is light olive brown and mottled. The substratum is olive, mottled coarse sand to a depth of 60 inches or more. In some map units the substratum is very fine sandy loam, silt loam, or very gravelly sand.

Included with this soil in mapping are small areas of the well drained Ondawa soils on low knolls and ridges and the poorly drained Rumney soils in depressions. In some map units recent deposits of sand, gravel, or cobbles are on the surface. The included areas make up about 15 percent of the map unit.

Permeability in this Podunk soil is moderately rapid in the subsoil and moderately rapid or rapid in the substratum. The available water capacity is high. The seasonal high water table is at a depth of 1 1/2 to 3 feet in winter and spring. Depth to bedrock is more than 60 inches. Potential frost action is high.

Most areas of this soil are farmed. A few areas are wooded.

This soil is well suited to cultivated crops. Flooding is a hazard, and the seasonal high water table is a management concern. In some years flooding, which lasts for short periods and usually occurs in spring, delays spring tillage. Stubble mulching and cover cropping help to control erosion. Land shaping to provide good surface drainage allows tillage soon after flooding. In areas suitable for outlets a subsurface drainage system can be used to lower the seasonal high water table. Maintaining streambanks in permanent protective cover helps to control streambank erosion.

This soil is well suited to hay and pasture. Flooding is a hazard, and overgrazing and the seasonal high water table are management concerns. Using stocking rates within grazing capacity, using rotational grazing, and, during wet periods, deferred grazing help to maintain a good stand of hay and pasture plants and to control erosion caused by floodwater. Planting water-tolerant plants helps to overcome the seasonal high water table.

The potential productivity for eastern white pine on this soil is extremely high. There are few concerns in woodland management.

Flooding is a limitation to use of this soil as sites for dwellings and septic tank absorption fields. The seasonal high water table and the poor filtering capacity are also limitations for septic tank absorption fields. If the soil is used as sites for septic tank absorption fields, the ground water can be contaminated because the soil readily absorbs effluent but does not adequately filter it. Seepage can be monitored by periodically testing wells for possible contamination.

This soil is in capability subclass IIw.

25B—Westbury fine sandy loam, 3 to 8 percent slopes. This is a very deep, gently sloping, somewhat poorly drained soil in depressions and on concave side slopes of hills and ridges.

Typically, the surface layer is very dark brown fine sandy loam 6 inches thick. The subsoil is mottled fine sandy loam 9 inches thick. In the upper part it is very dark grayish brown, and in the lower part it is gray. The substratum is olive, mottled gravelly fine sandy loam to a depth of 60 inches or more. In the upper part it is very firm, and in the lower part it is friable.

Included with this soil in mapping are small areas of the well drained Berkshire and Monadnock soils on hilltops and ridgetops and the well drained Marlow soils on upper side slopes. Also included are areas of poorly drained soils and the very poorly drained Markey soils in depressions. In some map units stones cover as much as 3 percent of the surface. The included soils make up about 15 percent of the map unit.

Permeability in this Westbury soil is moderate in the subsoil and slow in the substratum. The available water capacity is moderate. The seasonal high water table is perched at a depth of 1/2 foot to 1 1/2 feet in winter and spring. Depth to bedrock is more than 60 inches. Potential frost action is high.

Most areas of this soil are farmed. A few areas are wooded.

This soil is suited to cultivated crops. Erosion is a hazard, and the seasonal high water table is a management concern. Crop rotation, cover cropping, contour farming, and using conservation tillage help to control erosion. Installing diversion ditches to divert surface runoff also helps to control erosion. In some years spring tillage is delayed because of the seasonal high water table. A subsurface drainage system can be used to lower the seasonal high water table.

This soil is well suited to hay or pasture. Erosion is a hazard, and overstocking and the seasonal high water table are management concerns. Using stocking rates within grazing capacity, using rotational grazing, and, during wet periods, deferred grazing help to maintain a good stand of hay and pasture plants and to control erosion. Planting water-tolerant plants helps to overcome the seasonal high water table.

The potential productivity for northern red oak on this soil is moderate. The main concerns in woodland management are the equipment limitation, the windthrow hazard, and the rate of seedling mortality. Operating logging equipment is difficult during extended wet periods. Logging operations are more efficient during dry periods or when the soil is frozen. Windthrow is a hazard during wet periods because root growth is limited by the very firm substratum. Selective cutting helps to reduce the windthrow hazard. In some years seedling losses are high during wet periods in spring. Using special planting stock and, in some places, special site preparations, such as bedding and furrowing before planting, help to reduce seedling losses.

The seasonal high water table is the main limitation to use of this soil as sites for dwellings and septic tank absorption fields. Permeability in the substratum is also a limitation for septic tank absorption fields. In places a suitable fill material is needed to raise the existing grade of the site. Additional waterproofing practices and footing drains are needed to prevent wet basements. In places special construction, such as mounding the septic tank absorption field with a suitable fill material, is needed to raise the absorption field the required distance above the seasonal high water table.

This soil is in capability subclass IIIw.

25C—Westbury fine sandy loam, 8 to 15 percent slopes. This is a very deep, strongly sloping, somewhat poorly drained soil on concave side slopes of hills and ridges.

Typically, the surface layer is very dark brown fine sandy loam 6 inches thick. The subsoil is mottled fine sandy loam 9 inches thick. In the upper part it is very dark grayish brown, and in the lower part it is gray. The substratum is olive, mottled gravelly fine sandy loam to a depth of 60 inches or more. In the upper part it is very firm, and in the lower part it is friable.

Included with this soil in mapping are small areas of the well drained Berkshire and Monadnock soils on hilltops and ridgetops and the well drained Marlow soils on upper side slopes. Also included are areas of poorly drained soils and the very poorly drained Markey soils in depressions. In some map units stones cover as much as 3 percent of the surface. The included soils make up about 15 percent of the map unit.

Permeability in this Westbury soil is moderate in the subsoil and slow in the substratum. The available water capacity is moderate. The seasonal high water table is perched at a depth of 1/2 foot to 1 1/2 feet in winter and spring. Depth to bedrock is more than 60 inches. Potential frost action is high.

Most areas of this soil are farmed. A few areas are wooded.

This soil is suited to cultivated crops. Erosion is a hazard, and the seasonal high water table is a management concern. Crop rotation, cover cropping, contour farming, and using conservation tillage help to control erosion. Installing diversion ditches to divert surface runoff also helps to control erosion. In some years spring tillage is delayed because of the seasonal high water table. A subsurface drainage system can be used to lower the seasonal high water table.

This soil is well suited to hay or pasture. Erosion is a hazard, and overgrazing and the seasonal high water table are management concerns. Using stocking rates within grazing capacity, using rotational grazing and, during wet periods, deferred grazing help to maintain a

good stand of hay and pasture plants and to control erosion. Planting water-tolerant plants helps to overcome the seasonal high water table.

The potential productivity for northern red oak on this soil is moderate. The main concerns in woodland management are the equipment limitation, the windthrow hazard, and the rate of seedling mortality. Operating logging equipment is difficult during extended wet periods. Logging operations are more efficient during dry periods or when the soil is frozen. Windthrow is a hazard during wet periods because root growth is limited by the very firm substratum. Selective cutting helps to reduce the windthrow hazard. In some years seedling losses are high during wet periods in spring. Using special planting stock and, in places, special site preparations, such as bedding and furrowing, help to reduce seedling losses.

Slope and the seasonal high water table are the main limitations to use of this soil as sites for dwellings and septic tank absorption fields. Permeability in the substratum is also a limitation for septic tank absorption fields. In places excavation is needed to prepare nearly level building sites. Additional waterproofing practices and footing drains are needed to prevent wet basements. In places special construction, such as mounding the septic tank absorption field with a suitable fill material, is needed to raise the absorption field the required distance above the seasonal high water table.

This soil is in capability subclass IVe.

26B—Westbury fine sandy loam, 3 to 8 percent slopes, very stony. This is a very deep, gently sloping, somewhat poorly drained soil in depressions and on concave side slopes of hills and ridges. Stones are on 0.1 to 3 percent of the surface.

Typically, the surface layer is covered by a layer of forest litter 2 inches thick. The surface layer is black fine sandy loam 3 inches thick. The subsoil is mottled fine sandy loam 12 inches thick. In the upper part it is dark brown, and in the lower part it is gray. The substratum is olive, mottled gravelly fine sandy loam to a depth of 60 inches or more. In the upper part it is very firm, and in the lower part it is friable.

Included with this soil in mapping are small areas of the well drained Berkshire and Monadnock soils on hilltops and ridgetops and the well drained Marlow soils on upper side slopes. Also included are areas of poorly drained soils and the very poorly drained Markey soils in depressions. In some map units stones cover less than 0.1 percent of the surface. The included soils make up about 15 percent of this map unit.

Permeability in this Westbury soil is moderate in the subsoil and slow in the substratum. The available water capacity is moderate. The seasonal high water table is perched at a depth of 1/2 foot to 1 1/2 feet in winter and spring. Depth to bedrock is more than 60 inches. Potential frost action is high.

Most areas of this soil are wooded. A few areas are farmed.

This soil is not suited to cultivated crops because of stones on the surface.

This soil is not suited to hay and poorly suited to pasture because of stones on the surface. If this soil is used for unimproved pasture, periodic clipping and using rotational grazing help to maintain a good stand of pasture plants.

The potential productivity for northern red oak on this soil is moderate. The main concerns in woodland management are the equipment limitation, the windthrow hazard, and the rate of seedling mortality. Operating logging equipment is difficult during extended wet periods. Logging operations are more efficient during dry periods or when the soil is frozen. Windthrow is a hazard during wet periods because root growth is limited by the very firm substratum. Selective cutting helps to reduce the windthrow hazard. Seedling losses can be high during wet periods in spring. Using special planting stock and in places, special site preparation, such as bedding and furrowing before planting, helps to reduce seedling losses.

The seasonal high water table is the main limitation to use of this soil as sites for dwellings and septic tank absorption fields. Permeability in the substratum is also a limitation for sites for septic tank absorption fields. In places a suitable fill material is needed to raise the existing grade of the site. Additional waterproofing practices and footing drains are needed to prevent wet basements. In places special construction, such as mounding the septic tank absorption field with a suitable fill material, is needed to raise the absorption field the required distance above the seasonal high water table.

This soil is in capability subclass VIs.

26C—Westbury fine sandy loam, 8 to 15 percent slopes, very stony. This is a very deep, strongly sloping, somewhat poorly drained soil on concave side slopes of hills and ridges. Stones are on 0.1 to 3 percent of the surface.

Typically, the surface layer is covered by a layer of forest litter 2 inches thick. The surface layer is black fine sandy loam 3 inches thick. The subsoil is mottled fine sandy loam 12 inches thick. In the upper part it is dark brown, and in the lower part it is gray. The substratum is olive, mottled gravelly fine sandy loam to a depth of 60 inches or more. In the upper part it is very firm, and in the lower part it is friable.

Included with this soil in mapping are small areas of the well drained Berkshire and Monadnock soils on hilltops and ridgetops and the well drained Marlow soils on upper side slopes. Also included are areas of poorly drained soils and the very poorly drained Markey soils in depressions. In some map units stones cover less than 0.1 percent of the surface. The included soils make up about 15 percent of this map unit.

Permeability in this Westbury soil is moderate in the subsoil and slow in the substratum. The available water capacity is moderate. The seasonal high water table is perched at a depth of 1/2 foot to 1 1/2 feet in winter and spring. Depth to bedrock is more than 60 inches. Potential frost action is high.

Most areas of this soil are wooded. A few areas are farmed.

This soil is not suited to cultivated crops because of stones on the surface.

This soil is not suited to hay and poorly suited to pasture because of stones on the surface. If this soil is used for unimproved pasture, periodic clipping and using rotational grazing help to maintain a good stand of pasture plants.

The potential productivity for northern red oak on this soil is moderate. The main concerns in woodland management are the equipment limitation, the windthrow hazard, and the rate of seedling mortality. Operating logging equipment is difficult during extended wet periods. Logging operations are more efficient during dry periods or when the soil is frozen. Windthrow is a hazard during wet periods because root growth is limited by the very firm substratum. Selective cutting helps to reduce the windthrow hazard. In some years seedling losses can be high during wet periods in spring. Using special planting stock and, in places, special site preparation, such as bedding and furrowing before planting, help to reduce seedling losses.

Slope and the seasonal high water table are the main limitations to use of this soil as sites for dwellings and septic tank absorption fields. Permeability in the substratum is also a limitation for septic tank absorption fields. In places excavation is needed to prepare nearly level building sites. Additional waterproofing practices and footing drains are needed to prevent wet basements. In places special construction, such as mounding the septic tank absorption field with a suitable fill material, is needed to raise the absorption field the required distance above the seasonal high water table.

This soil is in capability subclass VIs.

26D—Westbury fine sandy loam, 15 to 25 percent slopes, very stony. This is a very deep, moderately steep, somewhat poorly drained soil on concave side slopes of hills and ridges. Stones are on 0.1 to 3 percent of the surface.

Typically, the surface layer is covered by a layer of forest litter 2 inches thick. The surface layer is black fine sandy loam 3 inches thick. The subsoil is mottled fine sandy loam 12 inches thick. In the upper part it is dark brown, and in the lower part it is gray. The substratum is olive, mottled gravelly fine sandy loam to a depth of 60 inches or more. In the upper part it is very firm, and in the lower part it is friable.

Included with this soil in mapping are small areas of the well drained Berkshire and Monadnock soils on hilltops and ridgetops and the well drained Marlow soils on upper side slopes. In some map units stones cover less than 0.1 percent of the surface. The included soils make up about 15 percent of the map unit.

Permeability in this Westbury soil is moderate in the subsoil and slow in the substratum. The available water capacity is moderate. The seasonal high water table is perched at a depth of 1/2 foot to 1 1/2 feet in winter and spring. Depth to bedrock is more than 60 inches. Potential frost action is high.

Most areas of this soil are wooded. A few areas are farmed.

This soil is not suited to cultivated crops because of stones on the surface.

This soil is not suited to hay and poorly suited to pasture because of stones on the surface. If this soil is used for unimproved pasture, periodic clipping and using rotational grazing help to maintain a good stand of pasture plants.

The potential productivity for northern red oak on this soil is moderate. The main concerns in woodland management are the erosion hazard, the equipment limitation, the windthrow hazard, and the rate of seedling mortality. Laying out skid trails and logging roads across the slope and installing culverts and water bars as necessary help to control erosion. Operating logging equipment across the slope reduces the equipment limitation. Operating logging equipment is difficult during extended wet periods. Logging operations are more efficient during dry periods or when the soil is frozen. Windthrow is a hazard during wet periods because root growth is limited by the very firm substratum. Selective cutting helps to reduce the windthrow hazard. In some years seedling losses can be high during wet periods in spring. Using special planting stock and in places, special site preparation, such as bedding and furrowing before planting, help to reduce seedling losses.

Slope and the seasonal high water table are the main limitations to use of this soil as sites for dwellings and septic tank absorption fields. Permeability in the substratum is also a limitation for septic tank absorption fields. In some areas extensive excavation is needed to prepare nearly level building sites. Additional waterproofing practices and footing drains are needed to prevent wet basements. In places special construction, such as mounding the septic tank absorption field with a suitable fill material, is needed to raise the absorption field the required distance above the seasonal high water table.

This soil is in capability subclass VIs.

29—Walpole fine sandy loam. This is a very deep, nearly level, somewhat poorly drained and poorly drained soil in depressions and drainageways and on toe slopes. Slope ranges from 0 to 3 percent.

Typically, the surface layer is covered by a layer of forest litter 2 inches thick. The surface layer is very dark

grayish brown fine sandy loam 3 inches thick. The subsoil is mottled fine sandy loam 25 inches thick. In the upper part it is dark grayish brown, and in the lower part it is olive. The substratum is olive gray, mottled very gravelly sand to a depth of 60 inches or more. In some map units the surface layer and subsoil are silt loam or very fine sandy loam.

Included with this soil in mapping are small areas of the well drained Agawam soils, the excessively drained Quonset soils, the somewhat excessively drained Warwick soils, and the excessively drained Windsor soils on low knolls and ridges. Also included are areas of the moderately well drained Deerfield and Belgrade soils on swells and the very poorly drained Markey soils in depressions. The included soils make up about 15 percent of the map unit.

Permeability in this Walpole soil is moderately rapid in the subsoil and rapid or very rapid in the substratum. The available water capacity is moderate. Depth to bedrock is more than 60 inches. The seasonal high water table is perched at a depth of 1 foot or less in winter and spring. Potential frost action is high.

Most areas of this soil are wooded. A few areas are farmed.

This soil is suited to cultivated crops. The seasonal high water table is a management concern. In some years spring tillage is delayed because of the seasonal high water table. In areas suitable for outlets, a subsurface drainage system can be used to lower the seasonal high water table.

This soil is well suited to hay and pasture. Overgrazing and the seasonal high water table are management concerns. Using stocking rates within grazing capacity, using rotational grazing, and, during wet periods, deferred grazing help to maintain a good stand of hay and pasture plants. Planting water-tolerant plants helps to overcome the seasonal high water table.

The potential productivity for eastern white pine on this soil is high. The main concerns in woodland management are the equipment limitation, the windthrow hazard, and the rate of seedling mortality. Operating logging equipment is difficult during extended wet periods. Logging operations are more efficient during dry periods or when the soil is frozen. Windthrow is a hazard during wet periods because root growth is limited by the seasonal high water table. Selective cutting helps to reduce the windthrow hazard. In some years seedling losses are high during wet periods in spring. Using special planting stock and, in places, special site preparation, such as bedding and furrowing before planting, helps to reduce seedling losses.

The seasonal high water table is the main limitation to use of this soil as sites for dwellings and septic tank absorption fields. The poor filtering capacity is also a limitation for septic tank absorption fields. In places a suitable fill material is needed to raise the existing grade of the site. Additional waterproofing practices and footing drains are needed to prevent wet basements, but few places are suitable for outlets for drainage systems. If the soil is used as sites for septic tank absorption fields, the ground water can be contaminated because the soil readily absorbs effluent but does not adequately filter it. Seepage can be monitored by periodically testing wells for possible contamination.

This soil is in capability subclass IIIw.

31B—Wilmington very fine sandy loam, 2 to 8 percent slopes, very stony. This is a very deep, gently sloping, poorly drained soil in depressions and drainageways in upland areas. Stones cover 0.1 to 3 percent of the surface.

Typically, the surface layer is covered by a layer of forest litter 2 inches thick. The surface layer is very dark brown very fine sandy loam 2 inches thick. The subsoil is 17 inches thick. In the upper part it is very dark grayish brown silt loam, in the middle part it is very dark grayish brown, mottled fine sandy loam, and in the lower part it is very dark grayish brown, mottled fine sandy loam. The substratum is mottled, firm fine sandy loam to a depth of 60 inches or more. In the upper part it is dark grayish brown and gray, and in the lower part it is olive.

Included with this soil in mapping are small areas of the well drained and moderately well drained Mundal soils and the somewhat poorly drained Worden soils on side slopes and on low knolls and ridges. Also included are areas of the very poorly drained Markey and Lupton soils in depressions. In some map units stones cover less than 0.1 percent of the surface. The included soils make up about 15 percent of the map unit.

Permeability in this Wilmington soil is moderate or moderately rapid in the subsoil and slow or moderately slow in the substratum. The available water capacity is high. Depth to bedrock is more than 60 inches. The seasonal high water table is perched at a depth of 1 foot or less from autumn to spring. Potential frost action is high.

Most areas of this soil are wooded. A few areas are farmed.

This soil is not suited to cultivated crops because of stones on the surface.

This soil is not suited to hay and poorly suited to pasture because of stones on the surface. If this soil is used for unimproved pasture, periodic clipping and using rotational grazing help to maintain a good stand of pasture plants.

The potential productivity for red maple on this soil is moderate. The main concerns in woodland management are the equipment limitation, the windthrow hazard, and the rate of seedling mortality. Operating logging equipment is difficult during extended wet periods. Logging operations are more efficient during dry periods or when the soil is frozen. Windthrow is a hazard during wet periods because root growth is limited by the firm substratum. Selective cutting helps to reduce the

windthrow hazard. In some years seedling losses are high during wet periods in spring. Using special planting stock and, in places, special site preparation, such as bedding and furrowing before planting, helps to reduce seedling losses.

The seasonal high water table is the main limitation to use of this soil as sites for dwellings and septic tank absorption fields. Permeability in the substratum is also a limitation for septic tank absorption fields. In places a suitable fill material is needed to raise the existing grade of the site. Additional waterproofing practices and footing drains are needed to prevent wet basements. In places special construction, such as mounding the septic tank absorption field with a suitable fill material, is needed to raise the absorption field the required distance above the seasonal high water table.

This soil is in capability subclass VIs.

33—Rumney fine sandy loam. This is a very deep, nearly level, poorly drained soil on flood plains. It is frequently flooded by stream overflow for brief periods. Slopes range from 0 to 3 percent.

Typically, the surface layer is dark gray fine sandy loam 8 inches thick. The subsoil is mottled fine sandy loam 25 inches thick. In the upper part it is dark grayish brown, in the middle part it is very dark grayish brown, and in the lower part it is dark grayish brown. The substratum is dark gray and olive gray, mottled loamy sand to a depth of 60 inches or more. In some map units the substratum is silt loam.

Included with this soil in mapping are small areas of the well drained Ondawa soils and the moderately well drained Podunk soils on low knolls and ridges. In some map units recent deposits of sand, gravel, or cobbles are on the surface. The included soils make up about 15 percent of the map unit.

Permeability in this Rumney soil is moderately rapid in the subsoil and rapid or very rapid in the substratum. The available water capacity is high. Depth to bedrock is more than 60 inches. The seasonal high water table is at a depth of 1 foot or less in winter and spring. Potential frost action is high.

Most areas of this soil are farmed. A few areas are wooded.

This soil is suited to cultivated crops. Flooding is a hazard, and the seasonal high water table is a management concern. In some years flooding, which usually occurs in spring, delays spring tillage. Stubble mulching and cover cropping help to control erosion caused by floodwater. Land shaping to provide good surface drainage allows tillage soon after flooding. In areas suitable for outlets, a subsurface drainage system can be used to lower the water table. Maintaining streambanks in permanent protective cover helps to control streambank erosion.

This soil is well suited to hay and pasture. Flooding is a hazard, and overgrazing and the seasonal high water table are management concerns. Using stocking rates within grazing capacity, using rotational grazing, and, during wet periods, deferred grazing help to maintain a good stand of hay and pasture plants and to control erosion caused by floodwater. Planting water-tolerant plants helps to overcome the seasonal high water table.

The potential productivity for eastern white pine on this soil is high. The main concerns in woodland management are the equipment limitation, the windthrow hazard, and the rate of seedling mortality. Operating logging equipment is difficult during extended wet periods. Logging operations are more efficient during dry periods or when the soil is frozen. Windthrow is a hazard during wet periods because root growth is limited by the seasonal high water table. Selective cutting helps to reduce the windthrow hazard. In some years seedling losses are high during wet periods in spring. Using special planting stock and, in places, special site preparation, such as bedding and furrowing before planting, helps to reduce seedling losses.

Flooding, the seasonal high water table, and the poor filtering capacity are limitations to use of this soil as sites for dwellings and septic tank absorption fields.

This soil is in capability subclass IIIw.

34C—Lyman-Rock outcrop complex, 8 to 15 percent slopes. This map unit consists of the shallow, strongly sloping, somewhat excessively drained Lyman soil and areas of Rock outcrop on the tops and sides of hills, ridges, and mountains. The Lyman soil is on summits, shoulders, and back slopes, and the areas of Rock outcrop are on summits. A typical area of the map unit is about 65 percent Lyman soil, 20 percent Rock outcrop, and 15 percent other soils. Stones cover 0.1 to 3 percent of the surface. The Lyman soil and areas of Rock outcrop are so intermingled that it was not practical to map them separately.

Typically, the surface layer of the Lyman soil is covered by a layer of forest litter 2 inches thick. The surface layer is very dark grayish brown fine sandy loam 5 inches thick. The subsoil is 10 inches thick. In the upper part it is dark brown fine sandy loam, in the middle part it is dark yellowish brown fine sandy loam, and in the lower part it is dark yellowish brown gravelly fine sandy loam. Bedrock is at a depth of 15 inches. In some map units bedrock is at a depth of less than 10 inches.

Rock outcrop consists of exposures of bare bedrock.

Included with this complex in mapping are small areas of the well drained Tunbridge soils on hilltops and ridgetops and the well drained Berkshire, Monadnock, and Marlow soils on upper side slopes. Also included are areas of the very poorly drained Markey soils in depressions and the somewhat poorly drained Westbury soils on toe slopes and in depressions. The included soils make up 15 percent of the map unit.

Permeability of the Lyman soil is moderately rapid. The available water capacity is very low. Depth to bedrock in

the Lyman soil is 10 to 20 inches. Potential frost action is moderate.

Almost all areas of the complex are wooded.

The Lyman soil is not suited to cultivated crops, hay, or pasture because of rock outcrop, depth to bedrock, and stones on the surface.

The potential productivity for sugar maple on the Lyman soil is moderate. The main concerns in woodland management are the rate of seedling mortality and the windthrow hazard. Some seedling losses occur during dry periods in summer. Using special site preparations and planting stock help to reduce seedling losses. Windthrow is a hazard because root growth is limited by depth to bedrock. Selective cutting helps to reduce the windthrow hazard.

Depth to bedrock is the main limitation to use of this soil as sites for dwellings and septic tank absorption fields. Bedrock limits the ease of deep excavation. In places special construction, such as mounding the septic tank absorption field with a suitable fill material, is needed to raise the absorption field the required distance above bedrock.

The Lyman soil is in capability subclass VIs.

34D—Lyman-Rock outcrop complex, 15 to 25 percent slopes. This map unit consists of the shallow, moderately steep, somewhat excessively drained Lyman soil and areas of Rock outcrop on the tops and sides of hills, ridges, and mountains. The Lyman soil is on summits, shoulders, and back slopes, and the areas of Rock outcrop are on summits. A typical area of the map unit is about 60 percent Lyman soil, 20 percent rock outcrop, and 20 percent other soils. Stones cover 0.1 to 3 percent of the surface. The Lyman soil and the areas of Rock outcrop are so intermingled that it was not practical to map them separately.

Typically, the surface layer of the Lyman soil is covered by a layer of forest litter 2 inches thick. The surface layer is very dark grayish brown fine sandy loam 5 inches thick. The subsoil is 10 inches thick. In the upper part it is dark brown fine sandy loam, in the middle part it is dark yellowish brown fine sandy loam, and in the lower part it is dark yellowish brown gravelly fine sandy loam. Bedrock is at a depth of 15 inches. In some map units bedrock is at a depth of less than 10 inches.

Rock outcrop consists of exposures of bare bedrock.

Included with this complex in mapping are small areas of the well drained Tunbridge soils on hilltops and ridgetops and the well drained Berkshire, Monadnock, and Marlow soils on upper side slopes. Also included are areas of the somewhat poorly drained Westbury soils on toe slopes and in depressions. The included soils make up 20 percent of the map unit.

Permeability of the Lyman soil is moderately rapid. The available water capacity is very low. Depth to bedrock in the Lyman soil is 10 to 20 inches. Potential frost action is moderate.

Almost all areas of this map unit are wooded.

The Lyman soil is not suited to cultivated crops, hay, or pasture because of rock outcrops, depth to bedrock, and stones on the surface.

The potential productivity for sugar maple on the Lyman soil is moderate. The main concerns in woodland management are the erosion hazard, the equipment limitation, the windthrow hazard, and the rate of seedling mortality. Laying out skid trails and logging roads across the slope and installing culverts and waterbars as necessary help to control erosion. Operating logging equipment across the slope reduces the equipment limitation. In places areas of exposed bedrock interfere with logging operations. Windthrow is a hazard because root growth is limited by depth to bedrock. Selective cutting helps to reduce the windthrow hazard. Some seedling losses occur during dry periods in summer. Using special site preparations and special planting stock helps to reduce seedling losses.

Slope and depth to bedrock are the main limitations to use of these soils as sites for dwellings and septic tank absorption fields. In places extensive excavation is needed to prepare nearly level sites for dwellings and septic tank absorption fields. Bedrock limits the ease of deep excavation. In places special construction, such as mounding the septic tank absorption field with a suitable fill material, is needed to raise the absorption field the required distance above bedrock.

The Lyman soil is in capability subclass VIs.

34E—Lyman-Rock outcrop complex, 25 to 50 percent slopes. This map unit consists of the shallow, steep and very steep, somewhat excessively drained Lyman soil and areas of Rock outcrop on the tops and sides of hills, ridges, and mountains. The Lyman soil is on summits, shoulders, and back slopes, and the areas of Rock outcrop are on summits. A typical area of the map unit is about 55 percent Lyman soil, 20 percent Rock outcrop, and 25 percent other soils. Stones cover 0.1 to 3 percent of the surface. The Lyman soil and areas of Rock outcrop are so intermingled that it was not practical to map them separately.

Typically, the surface layer of the Lyman soil is covered by a layer of forest litter 2 inches thick. The surface layer is very dark grayish brown fine sandy loam 5 inches thick. The subsoil is 10 inches thick. In the upper part it is dark brown fine sandy loam, in the middle part it is dark yellowish brown fine sandy loam, and in the lower part it is dark yellowish brown gravelly fine sandy loam. Bedrock is at a depth of 15 inches. In some map units bedrock is at a depth of less than 10 inches.

Rock outcrop consists of exposures of bare bedrock.

Included with this map unit in mapping are small areas of the well drained Tunbridge soils on hilltops and ridgetops and the well drained Berkshire, Monadnock, and Marlow soils on upper side slopes. The included soils make up 25 percent of the map unit.

Permeability in the Lyman soil is moderately rapid. The available water capacity is very low. Depth to bedrock in the Lyman soil is 10 to 20 inches. The potential frost action is moderate.

Almost all areas of this map unit are wooded.

This Lyman soil is not suited to cultivated crops, hay, or pasture because of slope, rock outcrops, depth to bedrock, and stones on the surface.

The potential productivity for sugar maple on the Lyman soil is moderate. The main concerns in woodland management are the erosion hazard, the equipment limitation, the windthrow hazard, and the rate of seedling mortality. Laying out skid trails and logging roads across the slope and installing culverts and water bars as necessary help to control erosion. Operating logging equipment across the slope reduces the equipment limitation. In places areas of exposed bedrock interfere with logging operations. Windthrow is a hazard because root growth is limited by depth to bedrock. Selective cutting helps to reduce the windthrow hazard. Some seedling losses occur during dry periods in summer. Using special site preparations and planting stock help to reduce seedling losses.

This soil is not suited to dwellings and septic tank absorption fields because of slope and depth to bedrock.

The Lyman soil is in capability subclass VIIs.

37—Hadley silt loam. This is a very deep, nearly level, well drained soil on flood plains. It is occasionally flooded by stream overflow for brief periods. Slopes range from 0 to 3 percent.

Typically, the surface layer is very dark grayish brown silt loam 7 inches thick. The substratum is very dark grayish brown silt loam and very fine sandy loam to a depth of 60 inches or more. Some areas have a surface layer of fine sandy loam. In some map units there are thin layers of sand throughout.

Included with this soil in mapping are small areas of the well drained Unadilla soils on low knolls and the moderately well drained Winooski soils and the poorly drained Limerick soils in depressions. In some map units recent deposits of sand, gravel, or cobbles are on the surface. The included soils make up about 15 percent of the map unit.

Permeability in this Hadley soil is moderate in the surface layer and moderate or moderately rapid in the substratum. The available water capacity is high. Depth to bedrock is more than 60 inches. The seasonal high water table is at a depth of 4 to 6 feet in winter and spring. Potential frost action is high.

Most areas of this soil are farmed. A few areas are wooded.

This soil is well suited to cultivated crops. Flooding is a hazard. In some years flooding, which lasts for short periods and usually occurs in spring, delays spring tillage. Stubble mulching and cover cropping help to control erosion caused by floodwater. Land shaping to provide good surface drainage allows tillage soon after flooding. Maintaining streambanks in permanent protective cover helps to control streambank erosion.

This soil is well suited to hay and pasture. Flooding is a hazard, and overgrazing is a management concern. Using stocking rates within grazing capacity and rotational grazing help to maintain a good stand of hay and pasture plants and to control erosion caused by floodwater.

The potential productivity for eastern white pine on this soil is very high. There are few concerns in woodland management.

Flooding is a limitation to use of this soil as sites for dwellings and septic tank absorption fields.

This soil is in capability class I.

39—Winooski silt loam. This is a very deep, nearly level, moderately well drained soil on flood plains. It is occasionally flooded by stream overflow for brief periods. Slopes range from 0 to 3 percent.

Typically, the surface layer is very dark grayish brown silt loam 7 inches thick. The substratum is silt loam to a depth of 60 inches. In the upper part it is dark grayish brown, in the middle part it is dark grayish brown and mottled, and in the lower part it is dark olive gray and mottled. In some map units the substratum in the lower part is sand.

Included with this soil in mapping are small areas of the well drained Hadley soils in higher areas adjacent to streams and the poorly drained Limerick soils in depressions. In some map units recent deposits of sand and gravel are on the surface. The included soils make up about 15 percent of the map unit.

Permeability in this Winooski soil is moderate or moderately rapid. The available water capacity is high. Depth to bedrock is more than 60 inches. The seasonal high water table is at a depth of 1 1/2 to 3 feet in winter and spring. Potential frost action is high.

Most areas of this soil are farmed. A few areas are wooded.

This soil is well suited to cultivated crops. Flooding is a hazard, and overgrazing and the seasonal high water table are management concerns. In some years flooding, which lasts for short periods and usually occurs in spring, delays spring tillage. Stubble mulching and cover cropping help to control erosion by floodwater. Land shaping to provide good surface drainage allows tillage soon after flooding. In areas suitable for outlets a subsurface drainage system can be used to lower the seasonal high water table. Maintaining streambanks in permanent protective cover helps to control streambank erosion.

This soil is well suited to hay and pasture. Flooding is a hazard, and the seasonal high water table is a management concern. Using stocking rates within grazing capacity, rotational grazing, and, during wet periods, deferred grazing help to maintain a good stand

of hay and pasture plants and to control erosion caused by floodwater. Planting water-tolerant plants helps to overcome the seasonal high water table.

The potential productivity for northern red oak on this soil is moderately high. There are few concerns in woodland management.

Flooding is a limitation to use of this soil as sites for dwellings and septic tank absorption fields. The seasonal high water table is also a limitation for septic tank absorption fields. If the soil is used as building sites, in places a suitable fill material is needed to raise the existing grade of the soil.

This soil is in capability subclass IIw.

40—Limerick silt loam. This is a very deep, nearly level, poorly drained soil on flood plains. It is frequently flooded by stream overflow for brief periods. Slope ranges from 0 to 3 percent.

Typically, the surface layer is dark olive gray silt loam 6 inches thick. The substratum is olive gray and dark gray, mottled silt loam to a depth of 60 inches or more. In some areas the surface layer is fine sandy loam.

Included with this soil in mapping are small areas of the well drained Hadley soils and the moderately well drained Winooski soils on low ridges. In some map units recent deposits of sand, gravel, or cobbles are on the surface. The included soils make up about 15 percent of the map unit.

Permeability in this Limerick soil is moderate. The available water capacity is high. Depth to bedrock is more than 60 inches. The seasonal high water table is at a depth of 1/2 foot to 1 1/2 feet in winter and spring. Potential frost action is high.

Most areas of this soil are farmed. A few areas are wooded.

This soil is suited to cultivated crops. Flooding is a hazard, and the seasonal high water table is a management concern. In some years flooding, which usually occurs in spring, delays spring tillage. Stubble mulching and cover cropping help to control erosion from floodwater. Land shaping to provide good surface drainage allows tillage soon after flooding. Where suitable outlets are available, a subsurface drainage system can be used to lower the seasonal high water table. Maintaining streambanks in permanent protective cover helps to control streambank erosion.

This soil is well suited to hay and pasture. Flooding is a hazard, and overgrazing and the seasonal high water table are management concerns. Using stocking rates within grazing capacity, using rotational grazing, and, during wet periods, deferred grazing help to maintain a good stand of hay and pasture plants and to control erosion caused by floodwater. Planting water-tolerant plants helps to overcome the seasonal high water table.

The potential productivity for red maple on this soil is moderate. The main concerns in woodland management are the equipment limitation, the windthrow hazard, and the rate of seedling mortality. Operating logging equipment is difficult during extended wet periods. Logging operations are more efficient during dry periods or when the soil is frozen. Windthrow is a hazard during wet periods because root growth is limited by the seasonal high water table. Selective cutting helps to reduce the windthrow hazard. In some years seedling losses are high during wet periods in spring. Using special site preparations and special planting stock help to reduce seedling losses.

Flooding and the seasonal high water table are limitations to use of this soil as sites for dwellings and septic tank absorption fields.

This soil is in capability subclass IIIw.

41D—Londonderry-Stratton silt loams, 8 to 25 percent slopes, very rocky. This map unit consists of strongly sloping and moderately steep, well drained soils on mountaintops and side slopes. The very shallow Londonderry soil is on summits, and the shallow Stratton soil is on shoulders and back slopes. A typical area of the map unit is about 50 percent Londonderry soils, 30 percent Stratton soils, and 20 percent other soils. Stones cover 0.1 to 3 percent of the surface, and rock outcrops cover 1 to 10 percent. The Londonderry and Stratton soils are so intermingled that it was not practical to map them separately.

Typically, the surface layer of the Londonderry soil is covered by a layer of forest litter 3 inches thick. The surface layer is black silt loam 2 inches thick. The subsurface layer is reddish gray fine sandy loam 3 inches thick. Bedrock is at a depth of 5 inches.

Typically, the surface layer of the Stratton soil is covered by a layer of forest litter 4 inches thick. The surface layer is black silt loam 2 inches thick. The subsurface layer is dark gray fine sandy loam 2 inches thick. The subsoil is 12 inches thick. In the upper part it is black fine sandy loam, and in the lower part it is dark reddish brown very cobbly fine sandy loam. Bedrock is at a depth of 16 inches.

Included with these soils in mapping are small areas of the well drained Glebe and Houghtonville soils and the well drained and moderately well drained Mundal soils on middle side slopes, the somewhat poorly drained Worden soils on lower side slopes, and the poorly drained Wilmington soils in depressions and seep spots. In some map units rock outcrops cover 10 to 25 percent of the surface. The included soils make up 10 to 20 percent of the map unit.

Permeability is moderate in the Londonderry soil and moderate or moderately rapid in the Stratton soil. The available water capacity is very low in the Londonderry soil and moderate in the Stratton soil. Depth to bedrock is 2 to 10 inches in the Londonderry soil and 10 to 20 inches in the Stratton soil. Potential frost action is moderate in the Londonderry soil and high in the Stratton soil.

Almost all areas of these soils are wooded.

These soils are not suited for cultivated crops, hay, or pasture because of rock outcrops, depth to bedrock, and stones on the surface.

The potential productivity for red spruce on these soils is moderately high. The main concerns in woodland management are the erosion hazard, the equipment limitation, the windthrow hazard, and the rate of seedling mortality. Laying out skid trails and logging roads across the slope and installing culverts and water bars as necessary help to control erosion. Operating logging equipment across the slope reduces the equipment limitation caused by slope. These soils are slippery when wet because of the high organic matter content in the surface layer and subsoil. Thus, in places they limit the use of logging equipment. Windthrow is a hazard because root growth is limited by depth to bedrock. Selective cutting helps to reduce the windthrow hazard. Using special planting stock and special site preparations help to reduce seedling losses.

Slope and depth to bedrock are the main limitations to use of these soils as sites for dwellings and septic tank absorption fields. In places extensive excavation is needed to prepare nearly level sites for dwellings and septic tank absorption fields. Bedrock limits the ease of deep excavation. In places special construction, such as mounding the septic tank absorption field with a suitable fill material, is needed to raise the absorption field the required distance above bedrock.

These soils are in capability subclass VIIs.

41E—Londonderry-Stratton silt loams, 25 to 70 percent slopes, very rocky. This map unit consists of steep and very steep well drained soils on mountaintops and side slopes. The very shallow Londonderry soil is on summits, and the shallow Stratton soil is on shoulders and back slopes. A typical area of the map unit is about 45 percent Londonderry soil, 35 percent Stratton soil, and 20 percent other soils. Stones cover 0.1 to 3 percent of the surface, and rock outcrops cover 1 to 10 percent. The Londonderry and Stratton soils are so intermingled that it was not practical to map them separately.

Typically, the surface layer of the Londonderry soil is covered by a layer of forest litter 3 inches thick. The surface layer is black silt loam 2 inches thick. The subsurface layer is reddish gray fine sandy loam 3 inches thick. Bedrock is at a depth of 5 inches.

Typically, the surface layer of the Stratton soil is covered by a layer of forest litter 4 inches thick. The surface layer is black silt loam 2 inches thick. The subsurface layer is fine sandy loam 2 inches thick. The subsoil is 12 inches thick. In the upper part it is black fine sandy loam, and in the middle part it is dark reddish brown very cobbly fine sandy loam. Bedrock is at a depth of 16 inches.

Included with these soils in mapping are small areas of the well drained Glebe and Houghtonville soils and the well drained and moderately well drained Mundal soils on middle side slopes, the somewhat poorly drained Worden soils on lower side slopes, and the poorly drained Wilmington soils in depressions and seep spots. In some map units rock outcrops cover 10 to 25 percent of the surface. The included soils make up 10 to 20 percent of the map unit.

Permeability is moderate in the Londonderry soil and moderate or moderately rapid in the Stratton soil. The available water capacity is very low in the Londonderry soil and moderate in the Stratton soil. Depth to bedrock is 2 to 10 inches in the Londonderry soil and 10 to 20 inches in the Stratton soil. Potential frost action is moderate in the Londonderry soil and high in the Stratton soil.

Almost all areas of these soils are wooded.

These soils are not suited to cultivated crops, hay, or pasture because of slope, rock outcrops, and stones on the surface.

The potential productivity for red spruce on these soils is moderately high. The main concerns in woodland management are the erosion hazard, the equipment limitation, the windthrow hazard, and the rate of seedling mortality. Laying out skid trails and logging roads across the slope and installing culverts and water bars as necessary help to control erosion. Operating logging equipment across the slope reduces the equipment limitation caused by slope. These soils are slippery when wet because of the high organic matter content in the surface layer and subsoil. Thus, in places the soils limit the use of logging equipment. Windthrow is a common hazard because root growth is limited by depth to bedrock. Selective cutting helps to reduce the windthrow hazard. Using special planting stock and special site preparations helps to reduce the rate of seedling mortality.

These soils are not suited to use as sites for dwellings and septic tank absorption fields because of slope and depth to bedrock.

These soils are in capability subclass VIIs.

43B—Mundal fine sandy loam, 3 to 8 percent slopes. This is a very deep, gently sloping, well drained and moderately well drained soil on the summits, shoulders, and back slopes of hills, ridges, and mountains.

Typically, the surface layer is very dark brown fine sandy loam 9 inches thick. The subsoil is 16 inches thick. In the upper part it is dark reddish brown fine sandy loam, and in the lower part it is dark brown sandy loam. The substratum, to a depth of 60 inches or more, is dark grayish brown and olive brown, firm gravelly fine sandy loam. In some areas the subsoil is yellower than typical, or is loamy sand.

Included with this Mundal soil in mapping are small areas of the well drained Hogback and Rawsonville soils on hilltops and ridgetops, the well drained Houghtonville soils on upper side slopes, and the somewhat poorly drained Worden soils and the poorly drained Wilmington soils on lower side slopes and in depressions. In some map units stones cover as much as 3 percent of the surface. The included soils make up about 15 percent of the map unit.

Permeability in this Mundal soil is moderate in the surface layer and subsoil and slow or moderately slow in the substratum. The available water capacity is moderate. The seasonal high water table is perched at a depth of 1 1/2 to 2 1/2 feet from autumn through spring. Depth to bedrock is more than 60 inches. Potential frost action is high.

Most areas of this soil are farmed. A few areas are wooded.

This soil is suited to cultivated crops. Erosion is a hazard, and the seasonal high water table and the short growing season are management concerns. Crop rotation, cover cropping, contour farming, and using conservation tillage help to control erosion. Installing diversion ditches to divert surface runoff also helps to control erosion. In some years spring tillage is delayed because of the seasonal high water table. A subsurface drainage system can be used to lower the seasonal high water table.

This soil is well suited to hay and pasture. Erosion is a hazard, and the seasonal high water table and the short growing season are management concerns. Using stocking rates within grazing capacity, using rotational grazing, and, during wet periods, deferred grazing help to maintain a good stand of hay and pasture plants and to control erosion. Planting water-tolerant plants helps to overcome the seasonal high water table.

The potential productivity for sugar maple on this soil is moderate. The main concern in woodland management is the equipment limitation. The soil is slippery when wet because of the high organic matter content in the surface layer and subsoil. Thus, in places the soil limits the use of logging equipment.

The seasonal high water table is the main limitation to use of this soil as sites for dwellings and septic tank absorption fields. Permeability in the substratum is also a limitation for septic tank absorption fields. In places a suitable fill material, is needed to raise the existing grade of the site. Additional waterproofing practices and footing drains are needed to prevent wet basements. In places special construction, such as mounding the septic tank absorption field with a suitable fill material is needed to raise the absorption field the required distance above the seasonal high water table.

This soil is in capability subclass IIe.

43C—Mundal fine sandy loam, 8 to 15 percent slopes. This is a very deep, strongly sloping, well drained and moderately well drained soil on the summits, shoulders, and back slopes of hills, ridges, and mountains.

Typically, the surface layer is very dark brown fine sandy loam 7 inches thick. The subsoil is 16 inches thick. In the upper part it is dark reddish brown fine sandy loam, and in the lower part it is dark brown sandy loam. The substratum, to a depth of 60 inches or more, is dark grayish brown and olive brown, firm gravelly fine sandy loam. In some areas the subsoil is yellower than typical, or is loamy sand.

Included with this soil in mapping are small areas of the well drained Hogback and Rawsonville soils on hilltops and ridgetops, the well drained Houghtonville soils on upper side slopes, and the somewhat poorly drained Worden soils and the poorly drained Wilmington soils on lower side slopes and in depressions. In some map units stones cover as much as 3 percent of the surface. The included soils make up about 15 percent of the map unit.

Permeability in this Mundal soil is moderate in the surface layer and subsoil and slow or moderately slow in the substratum. The available water capacity is moderate. The seasonal high water table is perched at a depth of 1 1/2 to 2 1/2 feet from autumn through spring. Depth to bedrock is more than 60 inches. Potential frost action is high.

Most areas of this soil are farmed. A few areas are wooded.

This soil is suited to cultivated crops. Erosion is a hazard, and the seasonal high water table and the short growing season are management concerns. Crop rotation, cover cropping, contour farming, and using conservation tillage help to control erosion. Installing diversion ditches to divert surface runoff also helps to control erosion. In some years spring tillage is delayed because of the seasonal high water table. A subsurface drainage system can be used to lower the seasonal high water table.

This soil is well suited to hay and pasture. Erosion is a hazard, and overgrazing, the seasonal high water table, and the short growing season are management concerns. Using stocking rates within grazing capacity, using rotational grazing, and, during wet periods, deferred grazing help to maintain a good stand of hay and pasture plants and to control erosion. Planting water-tolerant plants helps to overcome the seasonal high water table.

The potential productivity for sugar maple on this soil is moderate. The main concerns in woodland management are the erosion hazard and the equipment limitation. Laying out skid trails and logging roads across the slope and installing culverts and water bars as necessary help to control erosion. The soil is slippery when wet because of the high organic matter content in the surface layer and subsoil. Thus, in places the soil limits the use of logging equipment.

Slope and the seasonal high water table are the main limitations to use of this soil as sites for dwellings and septic tank absorption fields. Permeability in the substratum is also a limitation for septic tank absorption fields. In places excavation is needed to prepare nearly level building sites. Additional waterproofing practices and footing drains are needed to prevent wet basements. Special construction, such as mounding the septic tank absorption field with a suitable fill material, is needed to raise the absorption field the required distance above the seasonal high water table.

This soil is in capability subclass IIIe.

43D—Mundal fine sandy loam, 15 to 25 percent slopes. This soil is a very deep, moderately steep, well drained and moderately well drained soil on the summits, shoulders, and back slopes of hills, ridges, and mountains.

Typically, the surface layer is very dark brown fine sandy loam 6 inches thick. The subsoil is 16 inches thick. In the upper part it is dark reddish brown fine sandy loam, and in the lower part it is dark brown sandy loam. The substratum, to a depth of 60 inches or more, is dark grayish brown and olive brown, firm gravelly fine sandy loam. In some areas the subsoil is yellower than typical, or is loamy sand.

Included with this soil in mapping are small areas of the well drained Hogback and Rawsonville soils on hilltops and ridgetops, the well drained Houghtonville soils on upper side slopes, and the somewhat poorly drained Worden soils on lower side slopes. In some map units stones cover as much as 3 percent of the surface. The included soils make up about 15 percent of the map unit.

Permeability in this Mundal soil is moderate in the surface layer and subsoil and slow or moderately slow in the substratum. The available water capacity is moderate. The seasonal high water table is perched at a depth of 1 1/2 to 2 1/2 feet from autumn through spring. Depth to bedrock is more than 60 inches. Potential frost action is high.

Most areas of this soil are farmed. A few areas are wooded.

This soil is poorly suited to cultivated crops. Erosion is a hazard, and the seasonal high water table, the short growing season, and the equipment limitation are management concerns. A subsurface drainage system can be used to lower the seasonal high water table. Contour farming helps to overcome the equipment limitation.

This soil is suited to hay and pasture. Erosion is a hazard, and overgrazing, the seasonal high water table, the equipment limitation, and the short growing season are management concerns. Long term use of this soil for hay or pasture is effective in controlling erosion. Using stocking rates within grazing capacity, rotational grazing, and, during wet periods, deferred grazing help to maintain a good stand of hay and pasture plants and to control erosion. Planting water-tolerant plants helps to overcome the seasonal high water table. Seeding, fertilizing, and harvesting hay on the contour helps to overcome the equipment limitation.

The potential productivity for sugar maple on this soil is moderate. The main concerns in woodland management are the erosion hazard and the equipment limitation. Laying out skid trails and logging roads across the slope and installing culverts and water bars as necessary help to control erosion. Operating logging equipment across the slope reduces the equipment limitation caused by slope. The soil is slippery when wet because of the high organic matter content in the surface layer and subsoil. Thus, in places the soil limits the use of logging equipment.

Slope and the seasonal high water table are the main limitations to use of this soil as sites for dwellings and septic tank absorption fields. Permeability in the substratum is also a limitation for septic tank absorption fields. In places extensive excavation is needed to prepare nearly level sites for dwellings. Additional waterproofing practices and footing drains are needed to prevent wet basements. In places special construction, such as mounding the septic tank absorption field with a suitable fill material, is needed to raise the absorption field the required distance above the seasonal high water table.

This soil is in capability subclass IVe.

44B—Mundal fine sandy loam, 3 to 8 percent slopes, very stony. This is a very deep, gently sloping, well drained and moderately well drained soil on the summits, shoulders, and back slopes of hills, ridges, and mountains. Stones cover 0.1 to 3 percent of the surface.

Typically, the surface layer is covered by a layer of forest litter 4 inches thick. The surface layer is black fine sandy loam 1 inch thick. The subsurface layer is dark gray fine sandy loam 2 inches thick. The subsoil is 22 inches thick. In the upper part it is very dusky red fine sandy loam, in the middle part it is dark reddish brown fine sandy loam, and in the lower part it is dark brown sandy loam. The substratum is dark grayish brown and olive brown, firm gravelly fine sandy loam to a depth of 60 inches or more. In some areas the subsoil is yellow or loamy sand.

Included with this soil in mapping are small areas of the well drained Hogback and Rawsonville soils on hilltops and ridgetops, the well drained Houghtonville soils on upper side slopes, and the somewhat poorly drained Worden soils and the poorly drained Wilmington soils on toe slopes and in depressions. In some map units stones cover less than 0.1 percent of the surface. The included soils make up about 15 percent of the map unit.

Permeability in this Mundal soil is moderate in the surface layer and subsoil and slow or moderately slow in

the substratum. The available water capacity is high. The seasonal high water table is perched at a depth of 1 1/2 to 2 1/2 feet from autumn through spring. Depth to bedrock is more than 60 inches. Potential frost action is high.

Most areas of this soil are wooded. A few areas are farmed.

This soil is not suited to cultivated crops because of stones on the surface.

This soil is not suited to hay and poorly suited to pasture because of stones on the surface. If this soil is used for unimproved pasture, periodic clipping and using rotational grazing help to maintain a good stand of pasture plants.

The potential productivity for sugar maple on this soil is moderate. The main concern in woodland management is the equipment limitation. The soil is slippery when wet because of the high organic matter content in the surface layer and subsoil. Thus, in places the soil limits the use of logging equipment.

The seasonal high water table is the main limitation to use of this soil as sites for dwellings and septic tank absorption fields. Permeability in the substratum is also a limitation for septic tank absorption fields. In places a suitable fill material is needed to raise the existing grade of the site. Additional waterproofing practices and footing drains are needed to prevent wet basements. In places special construction, such as mounding the septic tank absorption field with a suitable fill material, is needed to raise the absorption field the required distance above the seasonal high water table.

This soil is in capability subclass VIs.

44C—Mundal fine sandy loam, 8 to 15 percent slopes, very stony. This is a very deep, strongly sloping, well drained and moderately well drained soil on the summits, shoulders, and back slopes of hills, ridges, and mountains. Stones are on 0.1 to 3 percent of the surface.

Typically, the surface layer is covered by a layer of forest litter 4 inches thick. The surface layer is black fine sandy loam 1 inch thick. The subsurface layer is dark gray fine sandy loam 2 inches thick. The subsoil is 22 inches thick. In the upper part it is very dusky red fine sandy loam, in the middle part it is dark reddish brown fine sandy loam, and in the lower part it is dark brown sandy loam. The substratum is dark grayish brown and olive brown, firm gravelly fine sandy loam to a depth of 60 inches or more. In some areas the subsoil is yellow or loamy sand.

Included with this soil in mapping are small areas of the well drained Hogback and Rawsonville soils on hilltops and ridgetops, the well drained Houghtonville soils on upper side slopes, and the somewhat poorly drained Worden soils and the poorly drained Wilmington soils on toe slopes and in depressions. In some map units stones cover less than 3 percent of the surface. The included soils make up about 15 percent of the map unit.

Permeability in this Mundal soil is moderate in the surface layer and subsoil and slow or moderately slow in the substratum. The available water capacity is high. The seasonal high water table is perched at a depth of 1 1/2 to 2 1/2 feet from autumn through spring. Depth to bedrock is more than 60 inches. Potential frost action is high.

Most areas of this soil are wooded. A few areas are farmed.

This soil is not suited to cultivated crops because of stones on the surface.

This soil is not suited to hay and poorly suited to pasture because of stones on the surface. If this soil is used for unimproved pasture, periodic clipping and using rotational grazing help to maintain a good stand of pasture plants.

The potential productivity for sugar maple on this soil is moderate. The main concerns in woodland management are the erosion hazard and the equipment limitation. Laying out skid trails and logging roads across the slope and installing culverts and water bars as necessary help to control erosion. The soil is slippery when wet because of the high organic matter content in the surface layer and subsoil. Thus, in places the soil limits the use of logging equipment.

Slope and the seasonal high water table are the main limitations to use of this soil as sites for dwellings and septic tank absorption fields. Permeability in the substratum is also a limitation for septic tank absorption fields. In places excavation is needed to prepare nearly level building sites. Additional waterproofing practices and footing drains are needed to prevent wet basements. Special construction, such as mounding the septic tank absorption field with a suitable fill material, is needed to raise the absorption field the required distance above the seasonal high water table.

This soil is in capability subclass VIs.

44D—Mundal fine sandy loam, 15 to 25 percent slopes, very stony. This is a very deep, moderately steep, well drained and moderately well drained soil on the summits, shoulders, and back slopes of hills, ridges, and mountains. Stones are on 0.1 to 3 percent of the surface.

Typically, the surface layer is covered by a layer of forest litter 4 inches thick. The surface layer is black fine sandy loam 1 inch thick. The subsurface layer is dark gray fine sandy loam 2 inches thick. The subsoil is 22 inches thick. In the upper part it is very dusky red fine sandy loam, in the middle part it is dark reddish brown fine sandy loam, and in the lower part it is dark brown sandy loam. The substratum is dark grayish brown and olive brown, firm gravelly fine sandy loam to a depth of 60 inches or more. In some areas the subsoil is yellow or loamy sand.

Included with this soil in mapping are small areas of the well drained Hogback and Rawsonville soils on hilltops and ridgetops, the well drained Houghtonville soils on upper side slopes, and the somewhat poorly drained Worden soils on toe slopes and in depressions. In some map units stones cover less than 0.1 percent of the surface. The included soils make up about 15 percent of the map unit.

Permeability in this Mundal soil is moderate in the surface layer and subsoil and slow or moderately slow in the substratum. The available water capacity is high. The seasonal high water table is perched at a depth of 1 1/2 to 2 1/2 feet from autumn through spring. Depth to bedrock is more than 60 inches. Potential frost action is high.

Most areas of this soil are wooded. A few areas are farmed.

This soil is not suited to cultivated crops because of stones on the surface.

This soil is not suited to hay and poorly suited to pasture because of stones on the surface. If this soil is used for unimproved pasture, periodic clipping and using rotational grazing help to maintain a good stand of pasture plants.

The potential productivity for sugar maple on this soil is moderate. The main concerns in woodland management are the erosion hazard and the equipment limitation. Laying out skid trails and logging roads across the slope and installing culverts and water bars as necessary help to control erosion. Operating logging equipment across the slope reduces the equipment limitation associated with slope. The soil is slippery when wet because of the high organic matter content in the surface layer and subsoil. Thus, in places the soil limits the use of logging equipment.

Slope and the seasonal high water table are the main limitations to use of this soil as sites for dwellings and septic tank absorption fields. Permeability in the substratum is also a limitation for septic tank absorption fields. In places extensive excavation is needed to prepare nearly level building sites. Additional waterproofing practices and footing drains are needed to prevent wet basements. In places special construction, such as mounding the septic tank absorption field with a suitable fill material, is needed to raise the absorption field the required distance above the seasonal high water table.

This soil is in capability subclass VIs.

44E—Mundal fine sandy loam, 25 to 50 percent slopes, very stony. This is a very deep, steep and very steep, well drained and moderately well drained soil on the summits, shoulders, and back slopes of hills, ridges, and mountains. Stones cover 0.1 to 3 percent of the surface.

Typically, the surface layer is covered by a layer of forest litter 4 inches thick. The surface layer is black fine sandy loam 1 inch thick. The subsurface layer is dark gray fine sandy loam 2 inches thick. The subsoil is 22 inches thick. In the upper part it is very dusky red fine sandy loam, in the middle part it is dark reddish brown fine sandy loam, and in the lower part it is dark brown sandy loam. The substratum is dark grayish brown and olive brown, firm gravelly fine sandy loam to a depth of 60 inches or more. In some areas the subsoil is yellow or is loamy sand.

Included with this soil in mapping are small areas of the well drained Hogback and Rawsonville soils on hilltops and ridgetops and the well drained Houghtonville soils on upper side slopes. In some map units stones cover less than 0.1 percent of the surface. The included soils make up about 15 percent of the map unit.

Permeability in this Mundal soil is moderate in the surface layer and subsoil and slow or moderately slow in the substratum. The available water capacity is high. The seasonal high water table is perched at a depth of 1 1/2 to 2 1/2 feet from autumn through spring. Depth to bedrock is more than 60 inches. Potential frost action is high.

Most areas of this soil are wooded. A few areas are farmed.

This soil is not suited to cultivated crops, hay, or pasture because of slope and stones on the surface.

The potential productivity for sugar maple on this soil is moderate. The main concerns in woodland management are the erosion hazard and the equipment limitation. Laying out skid trails and logging roads across the slope and installing culverts and water bars as necessary help to control erosion. Operating logging equipment across the slope reduces the equipment limitation caused by slope. The soil is slippery when wet because of the high organic matter content in the surface layer and subsoil. Thus, in places the soil limits the use of logging equipment.

This soil is not suited to use as sites for dwellings and septic tank absorption fields because of slope.

This soil is in capability subclass VIIs.

46B—Berkshire and Monadnock fine sandy loams, 3 to 8 percent slopes, very stony. This map unit consists of very deep, gently sloping, and well drained soils on the tops and sides of hills, ridges, and mountains. The total acreage of the map unit is about 50 percent Berkshire soils, 35 percent Monadnock soils, and 15 percent other soils. Stones cover 0.1 to 3 percent of the surface. Some areas are mainly Berkshire soils, some are mainly Monadnock soils, and some consist of both. The Berkshire and Monadnock soils were mapped together because they are similar in use and management.

Typically, the surface layer of the Berkshire soils is covered by a layer of forest litter 2 inches thick. The surface layer is very dark grayish brown fine sandy loam 2 inches thick. The subsoil is fine sandy loam 21 inches

thick. In the upper part it is dark brown, in the middle part it is dark yellowish brown, and in the lower part it is olive brown. The substratum is olive gravelly fine sandy loam to a depth of 60 inches or more.

Typically, the surface layer of the Monadnock soils is covered by a layer of forest litter 2 inches thick. The surface layer is very dark grayish brown fine sandy loam 2 inches thick. The subsoil is 22 inches thick. In the upper part it is dark reddish brown fine sandy loam, in the middle part it is brown gravelly fine sandy loam, and in the lower part it is dark yellowish brown gravelly fine sandy loam. The substratum is light olive brown and olive very gravelly loamy sand to a depth of 60 inches or more.

Included with these soils in mapping are small areas of the somewhat excessively drained Lyman soils and the well drained Tunbridge soils on hilltops, ridgetops, and mountaintops. Also included are areas of the well drained Marlow soils on upper side slopes and the somewhat poorly drained Westbury soils on foot slopes and toe slopes and in slight depressions. The included soils make up about 15 percent of the map unit. In some map units rock outcrops cover about 1 percent of the surface. In a few map units stones cover less than 0.1 percent of the surface.

Permeability is moderate and moderately rapid in the Berkshire soils and moderate in the subsoil and moderately rapid in the substratum of the Monadnock soils. The available water capacity is high in the Berkshire soils and moderate in the Monadnock soils. Depth to bedrock is more than 60 inches in both soils. Potential frost action is moderate in the Berkshire soils and low in the Monadnock soils.

Most areas of these soils are wooded. A few areas are farmed.

These soils are not suited to cultivated crops because of stones on the surface.

These soils are not suited to hay and poorly suited to pasture because of stones on the surface. If these soils are used for unimproved pasture, periodic clipping and using rotational grazing help to maintain a good stand of pasture plants.

The potential productivity for eastern white pine very high on the Berkshire soils and high on the Monadnock soils. There are few concerns in woodland management.

There are few limitations to use of these soils as sites for dwellings and septic tank absorption fields.

These soils are in capability subclass VIs.

46C—Berkshire and Monadnock fine sandy loams, 8 to 15 percent slopes, very stony. This map unit consists of very deep, strongly sloping, well drained soils on the tops and sides of hills, ridges, and mountains. The total acreage of the map unit is about 50 percent Berkshire soils, 35 percent Monadnock soils, and 15 percent other soils. Stones cover 0.1 to 3 percent percent of the surface. Some areas are mainly Berkshire soils, some are mainly Monadnock soils, and some consist of both. The Berkshire and Monadnock soils were mapped together because they are similar in use and management.

Typically, the surface layer of the Berkshire soils is covered by a layer of forest litter 2 inches thick. The surface layer is very dark grayish brown fine sandy loam 2 inches thick. The subsoil is fine sandy loam 21 inches thick. In the upper part it is dark brown, in the middle part it is dark yellowish brown, and in the lower part it is olive brown. The substratum is olive gravelly fine sandy loam to a depth of 60 inches or more.

Typically, the surface layer of the Monadnock soils is covered by a layer of forest litter 2 inches thick. The surface layer is very dark grayish brown fine sandy loam 2 inches thick.

The subsoil is 22 inches thick. In the upper part it is dark reddish brown fine sandy loam, in the middle part it is brown gravelly fine sandy loam, and in the lower part it is dark yellowish brown gravelly fine sandy loam. The substratum is light olive brown and olive very gravelly loamy sand to a depth of 60 inches or more.

Included with these soils in mapping are small areas of the somewhat excessively drained Lyman soils and the well drained Tunbridge soils on hilltops, ridgetops, and mountaintops. Also included are areas of the well drained Marlow soils on upper side slopes and the somewhat poorly drained Westbury soils on foot slopes and toe slopes and in slight depressions. The included soils make up about 15 percent of the map unit. In some map units rock outcrops cover about 1 percent of the surface. In a few map units stones cover less than 0.1 percent of the surface.

Permeability is moderate and moderately rapid in the Berkshire soils and moderate in the subsoil and moderately rapid in the substratum of the Monadnock soils. The available water capacity is high in the Berkshire soils and moderate in the Monadnock soils. Depth to bedrock is more than 60 inches in both soils. Potential frost action is moderate in the Berkshire soils and low in the Monadnock soils.

Most areas of these soils are wooded. A few areas are farmed.

These soils are not suited to cultivated crops because of stones on the surface.

These soils are not suited to hay and poorly sited to pasture because of stones on the surface. If these soils are used for unimproved pasture, periodic clipping and using rotational grazing help to maintain a good stand of pasture plants.

The potential productivity for eastern white pine is very high on the Berkshire soils and high on the Monadnock soils. There are few concerns in woodland management.

Slope is the main limitation to use of these soils as sites for dwellings and septic tank absorption fields. In places excavation and land grading are needed to

prepare nearly level sites for dwellings and septic tank absorption fields.

These soils are in capability subclass VIs.

46D—Berkshire and Monadnock fine sandy loams, 15 to 25 percent slopes, very stony. This map unit consists of very deep, moderately steep, well drained soils on the tops and sides of hills, ridges, and mountains. The total acreage of the map unit is about 50 percent Berkshire soils, 35 percent Monadnock soils, and 15 percent other soils. Stones cover 0.1 to 3 percent of the surface. Some areas are mainly Berkshire soils, some are mainly Monadnock soils, and some consist of both. The Berkshire and Monadnock soils were mapped together because they are similar in use and management.

Typically, the surface layer of the Berkshire soils is covered by a layer of forest litter 2 inches thick. The surface layer is very dark grayish brown fine sandy loam 2 inches thick. The subsoil is fine sandy loam 21 inches thick. In the upper part it is dark brown, in the middle part it is dark yellowish brown, and in the lower part it is olive brown. The substratum is olive gravelly fine sandy loam to a depth of 60 inches or more.

Typically, the surface layer of the Monadnock soils is covered by a layer of forest litter 2 inches thick. The surface layer is very dark grayish brown fine sandy loam 2 inches thick. The subsoil is 22 inches thick. In the upper part it is dark reddish brown fine sandy loam, in the middle part it is brown gravelly fine sandy loam, and in the lower part it is dark yellowish brown gravelly fine sandy loam. The substratum is light olive brown and olive very gravelly loamy sand to a depth of 60 inches or more.

Included with these soils in mapping are small areas of the somewhat excessively drained Lyman soils and the well drained Tunbridge soils on hilltops, ridgetops, and mountaintops. Also included are areas of the well drained Marlow soils on upper side slopes and the somewhat poorly drained Westbury soils on foot slopes and toe slopes and in slight depressions. The included soils make up about 15 percent of the map unit. In some map units rock outcrops cover about 1 percent of the surface. In a few map units stones cover less than 0.1 percent of the surface.

Permeability is moderate or moderately rapid in the Berkshire soils and moderate in the subsoil and moderately rapid in the substratum of the Monadnock soils. The available water capacity is high in the Berkshire soils and moderate in the Monadnock soils. Depth to bedrock is more than 60 inches in both soils. Potential frost action is moderate in the Berkshire soils and low in the Monadnock soils.

Most areas of these soils are wooded.

These soils are not suited to cultivated crops because of stones on the surface.

These soils are not suited to hay and poorly suited to pasture because of stones on the surface. If these soils are used for unimproved pasture, periodic clipping and using rotational grazing help to maintain a good stand of pasture plants.

The potential productivity for eastern white pine is very high on the Berkshire soils and high on the Monadnock soils. The main concerns in woodland management are the erosion hazard and the equipment limitation. Laying out skid trails and logging roads across the slope and installing culverts and water bars as necessary help to control erosion. Operating logging equipment across the slope reduces the equipment limitation.

Slope is the main limitation to use of these soils as sites for dwellings and septic tank absorption fields. Extensive excavation and land grading are needed to prepare nearly level building sites. Special slope design is needed for sites for septic tank absorption fields.

These soils are in capability subclass VIs.

46E—Berkshire and Monadnock fine sandy loams, 25 to 50 percent slopes, very stony. This map unit consists of very deep, steep and very steep, well drained soils on the tops and sides of hills, ridges, and mountains. The total acreage of the map unit is about 50 percent Berkshire soils, 35 percent Monadnock soils, and 15 percent other soils. Stones cover 0.1 to 3 percent of the surface. Some areas are mainly Berkshire soils, some are mainly Monadnock soils, and some consist of both. The Berkshire and Monadnock soils were mapped together because they are similar in use and management.

Typically, the surface layer of the Berkshire soils is covered by a layer of forest litter 2 inches thick. The surface layer is very dark grayish brown fine sandy loam 2 inches thick. The subsoil is fine sandy loam 21 inches thick. In the upper part it is dark brown, in the middle part it is dark yellowish brown, and in the lower part it is olive brown. The substratum is olive gravelly fine sandy loam to a depth of 60 inches or more.

Typically, the surface layer of the Monadnock soils is covered by a layer of forest litter 2 inches thick. The surface layer is very dark grayish brown fine sandy loam 2 inches thick. The subsoil is 22 inches thick. In the upper part it is dark reddish brown fine sandy loam, in the middle part it is brown gravelly fine sandy loam, and in the lower part it is dark yellowish brown gravelly fine sandy loam. The substratum is light olive brown and olive very gravelly loamy sand to a depth of 60 inches or more.

Included with these soils in mapping are small areas of the somewhat excessively drained Lyman soils and the well drained Tunbridge soils on hilltops, ridgetops, and mountaintops. Also included are areas of the well drained Marlow soils on upper side slopes. The included soils make up about 15 percent of the map unit. In some map units rock outcrops cover about 1 percent of the

surface. In a few map units stones cover less than 0.1 percent of the surface.

Permeability is moderate or moderately rapid in the Berkshire soils and moderate in the subsoil and moderately rapid in the substratum of the Monadnock soils. The available water capacity is high in the Berkshire soils and moderate in the Monadnock soils. Depth to bedrock is more than 60 inches in both soils. Potential frost action is moderate in the Berkshire soils and low in the Monadnock soils.

Almost all areas of these soils are wooded.

These soils are not suited to cultivated crops, hay, or pasture because of slope and stones on the surface.

The potential productivity for eastern white pine is very high on the Berkshire soils and high on the Monadnock soils. The main concerns in woodland management are the erosion hazard and the equipment limitation. Laying out skid trails and logging roads across the slope and installing culverts and water bars as necessary help to control erosion. Operating logging equipment across the steep slope reduces the equipment limitation.

These soils are not suited to use as sites for dwellings and septic tank absorption fields because of slope.

These soils are in capability subclass VIIs.

47—Lupton mucky peat. This is a very deep, nearly level, very poorly drained soil in bogs and swamps (fig. 11). Slope ranges from 0 to 2 percent.

Typically, the surface layer is dark reddish brown mucky peat 4 inches thick. Below the mucky peat, to a depth of 60 inches or more, there is dark reddish brown and black muck. The substratum is loamy or sandy below a depth of 60 inches.

Included with this soil in mapping are small areas of the poorly drained Wilmington soils and the somewhat poorly drained Westbury soils on toe slopes adjacent to

Figure 11.—In the foreground, a typical area of Lupton mucky peat. This soil is in bogs and swamps. In the background, an area of Mundal fine sandy loam, 8 to 15 percent slopes, very stony.

bogs and swamps. Also included are very poorly drained soils on flood plains. The included soils make up about 15 percent of the map unit.

Permeability in the Lupton soil ranges from moderately slow to moderately rapid. The available water capacity is high. Depth to bedrock is more than 60 inches. The seasonal high water table is near or above the surface from autumn to spring. Potential frost action is high.

Almost all areas of this soil are wooded.

This soil is not suited to cultivated crops, hay, or pasture because of the seasonal high water table.

The potential productivity for black spruce on this soil is moderate. The main concerns in woodland management are the equipment limitation, the windthrow hazard, and the rate of seedling mortality. Operating logging equipment is difficult during extended wet periods. Logging operations are more efficient when the soil is frozen. Windthrow is a hazard during wet periods because root growth is limited by the seasonal high water table. Selective cutting helps to reduce the windthrow hazard. In some years seedling losses are high because of the seasonal high water table. Using special site preparations and special planting stock helps to reduce seedling losses.

This soil is not suited to use as sites for dwellings and septic tank absorption fields because of the seasonal high water table, ponding, and the low soil strength.

This soil is in capability subclass Vw.

48B—Rawsonville-Hogback fine sandy loams, 3 to 8 percent slopes, rocky. This map unit consists of gently sloping and well drained soils on the summits, shoulders, and back slopes of hills, ridges, and mountains. The moderately deep Rawsonville soil is generally on shoulders and back slopes, and the shallow Hogback soil is on summits and shoulders. A typical area of the map unit is about 55 percent Rawsonville soils, 25 percent Hogback soils, and 20 percent other soils. Stones cover 0.1 to 3 percent of the surface, and rock outcrops cover about 1 percent. The Rawsonville and Hogback soils are so intermingled that it was not practical to map them separately.

Typically, the surface layer of the Rawsonville soil is covered by a layer of forest litter 3 inches thick. The surface layer is black fine sandy loam 1 inch thick. The subsoil is fine sandy loam 27 inches thick. In the upper part it is dark reddish brown, and in the lower part it is dark brown. Bedrock is at a depth of 28 inches.

Typically, the surface layer of the Hogback soil is covered by a layer of forest litter 2 inches thick. The surface layer is dark reddish brown fine sandy loam 2 inches thick. The subsoil is dark reddish brown fine sandy loam 13 inches thick. Bedrock is at a depth of 15 inches.

Included with these soils in mapping are small areas of the well drained Londonderry soils on ridgetops, the well drained Houghtonville soils on upper side slopes, and the well drained and moderately well drained Mundal soils and the somewhat poorly drained Worden soils on back slopes and foot slopes. Also included are areas of the poorly drained Wilmington soils and the very poorly drained Markey soils in depressions. The included soils make up about 20 percent of the map unit. In some areas of this map unit rock outcrops cover 1 to 10 percent of the surface.

Permeability is moderate or moderately rapid in the Rawsonville soil and moderately rapid in the Hogback soil. The available water capacity is high in the Rawsonville soil and moderate in the Hogback soil. Depth to bedrock is 20 to 40 inches in the Rawsonville soil and 10 to 20 inches in the Hogback soil. Potential frost action is high in both soils.

Most areas of these soils are wooded. A few areas are farmed.

These soils are not suited to cultivated crops because of rock outcrops, shallowness to rock in the Hogback soil, and stones on the surface.

These soils are not suited to hay and poorly suited to pasture because of rock outcrops and stones on the surface. If these soils are used for unimproved pasture, periodic clipping and using rotational grazing help to maintain a good stand of pasture plants.

The potential productivity for sugar maple on these soils is moderate. The main concern in woodland management is the equipment limitation. These soils are slippery when wet because of the high organic matter content in the surface layer and subsoil. Thus, in places the soils limit the use of logging equipment. On the Hogback soil, the rate of seedling mortality and the windthrow hazard are also concerns. Some seedling losses occur during dry periods in summer. Using special planting stock and, in places, special site preparations, such as bedding and furrowing before planting, help to reduce seedling losses. Windthrow is a hazard because root growth is limited by depth to bedrock. Selective cutting helps to reduce the windthrow hazard.

Depth to bedrock is the main limitation to use of these soils as sites for dwellings and septic tank absorption fields. Bedrock limits the ease of deep excavation. In places special construction, such as mounding the septic tank absorption field with a suitable fill material, is needed to raise the absorption field the required distance above bedrock.

These soils are in capability subclass VIs.

48C—Rawsonville-Hogback fine sandy loams, 8 to 15 percent slopes, rocky. This map unit consists of strongly sloping and well drained soils on the summits, shoulders, and back slopes of hills, ridges, and mountains. The moderately deep Rawsonville soil is generally on shoulders and back slopes, and the shallow Hogback soil is on summits and shoulders. A typical area of the map unit is about 50 percent Rawsonville soil, 30 percent Hogback soil, and 20 percent other soils. Stones

cover 0.1 to 3 percent of the surface, and rock outcrops cover about 1 percent. The Rawsonville and Hogback soils are so intermingled that it was not practical to map them separately.

Typically, the surface layer of the Rawsonville soil is covered by a layer of forest litter 3 inches thick. The surface layer is black fine sandy loam 1 inch thick. The subsoil is fine sandy loam 27 inches thick. In the upper part it is dark reddish brown, and in the lower part it is dark brown. Bedrock is at a depth of 28 inches.

Typically, the surface layer of the Hogback soil is covered by a layer of forest litter 2 inches thick. The surface layer is dark reddish brown fine sandy loam 2 inches thick. The subsoil is dark reddish brown fine sandy loam 13 inches thick. Bedrock is at a depth of 15 inches.

Included with these soils in mapping are small areas of the well drained Londonderry soils on ridgetops, the well drained Houghtonville soils on upper side slopes, and the well drained and moderately well drained Mundal soils and the somewhat poorly drained Worden soils on back slopes and foot slopes. Also included are areas of the poorly drained Wilmington soils and the very poorly drained Markey soils in depressions. The included soils make up about 20 percent of the map unit. In some areas of the map unit rock outcrops cover 1 to 10 percent of the surface.

Permeability is moderate or moderately rapid in the Rawsonville soil and moderately rapid in the Hogback soil. The available water capacity is high in the Rawsonville soil and moderate in the Hogback soil. Depth to bedrock is 20 to 40 inches in the Rawsonville soil and 10 to 20 inches in the Hogback soil. Potential frost action is high in both soils.

Most areas of these soils are wooded. A few areas are farmed.

These soils are not suited to cultivated crops because of rock outcrops, shallowness to rock in the Hogback soil, and stones on the surface.

These soils are not suited to hay and poorly suited to pasture because of rock outcrops and stones on the surface. If these soils are used for unimproved pasture, periodic clipping and using rotational grazing help to maintain a good stand of pasture plants.

The potential productivity for sugar maple on these soils is moderate. The main concerns in woodland management is the erosion hazard and the equipment limitation. Laying out skid trails and logging roads across the slope and installing culverts and water bars as necessary help to control erosion. The soils are slippery when wet because of the high organic matter content in the surface layer and subsoil. Thus, in places the soils limit the use of logging equipment. On the Hogback soil, the rate of seedling mortality and the windthrow hazard are also concerns. Some seedling losses occur during dry periods in summer. Using special planting stock and in places, special site preparations, such as bedding and furrowing before planting, helps to reduce seedling losses. Windthrow is a hazard because root growth is limited by depth to bedrock. Selective cutting helps to reduce the windthrow hazard.

Slope and depth to bedrock are the main limitations to use of these soils as sites for dwellings and septic tank absorption fields. In places excavation is needed to prepare nearly level building sites. Bedrock limits the ease of deep excavation. In places special construction, such as mounding the septic tank absorption field with a suitable fill material, is needed to raise the absorption field the required distance above bedrock.

These soils are in capability subclass VIs.

48D—Rawsonville-Hogback fine sandy loams, 15 to 25 percent slopes, rocky. This map unit consists of moderately steep and well drained soils on the summits, shoulders, and back slopes of hills, ridges, and mountains. The moderately deep Rawsonville soil is generally on shoulders and back slopes, and the shallow Hogback soil is on summits and shoulders. A typical area of the map unit is about 40 percent Rawsonville soil, 35 percent Hogback soil, and 25 percent other soils. Stones cover 0.1 to 3 percent of the surface, and rock outcrops cover about 1 percent. The Rawsonville and Hogback soils are so intermingled that it was not practical to map them separately.

Typically, the surface layer of the Rawsonville soil is covered by a layer of forest litter 3 inches thick. The surface layer is black fine sandy loam 1 inch thick. The subsoil is fine sandy loam 27 inches thick. In the upper part it is dark reddish brown, and in the lower part it is dark brown. Bedrock is at a depth of 28 inches.

Typically, the surface layer of the Hogback soil is covered by a layer of forest litter 2 inches thick. The surface layer is dark reddish brown fine sandy loam 2 inches thick. The subsoil is dark reddish brown fine sandy loam 13 inches thick. Bedrock is at a depth of 15 inches.

Included with these soils in mapping are small areas of the well drained Londonderry soils on ridge tops, the well drained Houghtonville soils on upper side slopes, and the well drained and moderately well drained Mundal soils and the somewhat poorly drained Worden soils on back slopes and foot slopes. The included soils make up about 25 percent of the map unit. In some areas of the map unit rock outcrops cover 1 to 10 percent of the surface.

Permeability is moderate or moderately rapid in the Rawsonville soil and moderately rapid in the Hogback soil. The available water capacity is high in the Rawsonville soil and moderate in the Hogback soil. Depth to bedrock is 20 to 40 inches in the Rawsonville soil and 10 to 20 inches in the Hogback soil. Potential frost action is high in both soils.

Most areas of these soils are wooded. A few areas are farmed.

These soils are not suited to cultivated crops because of bedrock outcrops, shallowness to rock in the Hogback soil, and stones on the surface.

These soils are not suited to hay and poorly suited to pasture because of rock outcrops and stones on the surface. If these soils are used for unimproved pasture, periodic clipping and using rotational grazing help to maintain a good stand of pasture plants.

The potential productivity for sugar maple on these soils is moderate. The main concerns in woodland management are the erosion hazard and the equipment limitation. Laying out skid trails and logging roads across the slope and installing culverts and water bars as necessary help to control erosion. Operating logging equipment across the slope reduces the equipment limitation caused by slope. The soils are slippery when wet because of the high organic matter content in the surface layer and the subsoil. Thus, in places the soils limit the use of logging equipment. On the Hogback soil, the rate of seedling mortality and the windthrow hazard are also concerns. Some seedling losses occur during dry periods in summer. Using special planting stock and, in places, special site preparations, such as bedding and furrowing before planting, helps to reduce seedling losses. Windthrow is a hazard because root growth is limited by depth to bedrock. Selective cutting helps to reduce the windthrow hazard.

Slope and depth to bedrock are the main limitations to use of these soils as sites for dwellings and septic tank absorption fields. Bedrock limits the ease of deep excavation. In places extensive excavation is needed to prepare nearly level building sites. In places special construction, such as mounding the septic tank absorption field with a suitable fill material, is needed to raise the absorption field the required distance above bedrock.

These soils are in capability subclass VIs.

48E—Rawsonville-Hogback fine sandy loams, 25 to 50 percent slopes, rocky. This map unit consists of steep and very steep and well drained soils on the summits, shoulders, and back slopes of hills, ridges, and mountains. The moderately deep Rawsonville soil is generally on shoulders and back slopes, and the shallow Hogback soil is on summits and shoulders. A typical area of the map unit is about 45 percent Rawsonville soil, 30 percent Hogback soil, and 25 percent other soils. Stones cover 0.1 to 3 percent of the surface, and rock outcrops cover about 1 percent. The Rawsonville and Hogback soils are so intermingled that it was not practical to map them separately.

Typically, the surface layer of the Rawsonville soil is covered by a layer of forest litter 3 inches thick. The surface layer is black fine sandy loam 1 inch thick. The subsoil is fine sandy loam 27 inches thick. In the upper part it is dark reddish brown, and in the lower part it is dark brown. Bedrock is at a depth of 28 inches.

Typically, the surface layer of the Hogback soil is covered by a layer of forest litter 2 inches thick. The surface layer is dark reddish brown fine sandy loam 2 inches thick. The subsoil is dark reddish brown fine sandy loam 13 inches thick. Bedrock is at a depth of 15 inches.

Included with these soils in mapping are small areas of the well drained Londonderry soils on ridgetops, the well drained Houghtonville soils on upper side slopes, and the well drained and moderately well drained Mundal soils on back slopes and foot slopes. The included soils make up about 25 percent of the map unit. In some areas of the map unit rock outcrops cover 1 to 10 percent of the surface.

Permeability is moderate or moderately rapid in the Rawsonville soil and moderately rapid in the Hogback soil. The available water capacity is high in the Rawsonville soil and moderate in the Hogback soil. Depth to bedrock is 20 to 40 inches in the Rawsonville soil and 10 to 20 inches in the Hogback soil. Potential frost action is high in both soils.

Most areas of these soils are wooded. A few areas are farmed.

These soils are not suited to cultivated crops, hay, or pasture because of slope and rock outcrops.

The potential productivity for sugar maple on these soils is moderate. The main concerns in woodland management are the erosion hazard and the equipment limitation. Laying out skid trails and logging roads across the slope and installing culverts and water bars as necessary help to control erosion. Operating logging equipment across the slope reduces the equipment limitation caused by slope. The soils are slippery when wet because of the high organic matter content in the surface layer and subsoil. Thus, in places, the soils limit the use of logging equipment. On the Hogback soil, the rate of seedling mortality and the windthrow hazard are also concerns. Some seedling losses occur during dry periods in summer. Using special planting stock and, in places, special site preparations, such as bedding and furrowing before planting, helps to reduce seedling losses. Windthrow is a hazard because root growth is limited by depth to bedrock. Selective cutting helps to reduce the windthrow hazard.

These soils are not suited to dwellings and septic tank absorption fields because of slope and depth to bedrock.

These soils are in capability subclass VIIs.

49B—Houghtonville-Rawsonville fine sandy loams, 3 to 8 percent slopes, very bouldery. This map unit consists of gently sloping soils on the summits, shoulders, and back slopes of hills, ridges, and mountains. The very deep, well drained Houghtonville soil is generally on shoulders and back slopes, and the moderately deep, well drained Rawsonville soil is on summits and shoulders. A typical area of the map unit is about 45 percent Houghtonville soil, 40 percent

Rawsonville soil, and 15 percent other soils. Boulders and stones cover 0.1 to 3 percent of the surface. The Houghtonville and Rawsonville soils are so intermingled that it was not practical to map them separately.

Typically, the surface layer of the Houghtonville soil is covered by a layer of forest litter 4 inches thick. The surface layer is black fine sandy loam 2 inches thick. The subsurface layer is light brownish gray fine sandy loam 2 inches thick. The subsoil is 28 inches thick. In the upper part it is dark reddish brown fine sandy loam, in the middle part it is dark brown fine sandy loam and dark yellowish brown gravelly fine sandy loam, and in the lower part it is olive gravelly fine sandy loam. The substratum is dark olive gravelly fine sandy loam to a depth of 60 inches or more.

Typically, the surface layer of the Rawsonville soil is covered by a layer of forest litter 3 inches thick. The surface layer is black fine sandy loam 1 inch thick. The subsoil is fine sandy loam 27 inches thick. In the upper part it is dark reddish brown, and in the lower part it is dark brown. Bedrock is at a depth of 28 inches.

Included with these soils in mapping are small areas of the well drained Hogback soils on summits, the well drained and moderately well drained Mundal soils and the somewhat poorly drained Worden soils on back slopes and foot slopes, and the poorly drained Wilmington and Markey soils in depressions. The included soils make up 15 percent of the map unit. In some areas of the map unit rock outcrops cover up to 1 percent of the surface. In some map units boulders and stones cover less than 0.1 percent of the surface.

Permeability is moderate or moderately rapid in the Houghtonville and Rawsonville soils. The available water capacity is high in both soils. Depth to bedrock is more than 60 inches in the Houghtonville soil and 20 to 40 inches in the Rawsonville soil. Potential frost action is high in both soils.

Most areas of these soils are wooded. A few areas are farmed.

These soils are not suited to cultivated crops because of boulders and stones on the surface.

These soils are not suited to hay and poorly suited to pasture because of boulders and stones on the surface. If these soils are used for unimproved pasture, periodic clipping and using rotational grazing help to maintain a good stand of pasture plants.

The potential productivity for sugar maple on these soils is moderate. The main concern in woodland management is the equipment limitation. The soils are slippery when wet because of the high organic matter content in the surface layer and subsoil. Thus, in places the soils limit the use of logging equipment. On the Rawsonville soil, windthrow is a hazard because root growth is limited by depth to bedrock. Selective cutting helps to reduce the windthrow hazard.

Depth to bedrock in the Rawsonville soil is the main limitation to use of these soils as sites for dwellings and septic tank absorption fields. Bedrock limits the ease of deep excavation. In places special construction, such as mounding the septic tank absorption field with a suitable fill material, is needed to raise the absorption field the required distance above bedrock.

These soils are in capability subclass VIs.

49C—Houghtonville-Rawsonville fine sandy loams, 8 to 15 percent slopes, very bouldery. This map unit consists of strongly sloping soils on summits, shoulders, and back slopes of hills, ridges, and mountains. The very deep, well drained Houghtonville soil is generally on shoulders and back slopes, and the moderately deep, well drained Rawsonville soil is on summits and shoulders. A typical area of the map unit is about 45 percent Houghtonville soil, 40 percent Rawsonville soil, and 15 percent other soils. Boulders and stones cover 0.1 to 3 percent of the surface. The Houghtonville and Rawsonville soils are so intermingled that it was not practical to map them separately.

Typically, the surface layer of the Houghtonville soil is covered by a layer of forest litter 4 inches thick. The surface layer is black fine sandy loam 2 inches thick. The subsurface layer is light brownish gray fine sandy loam 2 inches thick. The subsoil is 28 inches thick. In the upper part it is dark reddish brown fine sandy loam, in the middle part it is dark brown fine sandy loam and dark yellowish brown gravelly fine sandy loam, and in the lower part it is olive gravelly fine sandy loam. The substratum is dark olive gravelly fine sandy loam to a depth of 60 inches or more.

Typically, the surface layer of the Rawsonville soil is covered by a layer of forest litter 3 inches thick. The surface layer is black fine sandy loam 1 inch thick. The subsoil is fine sandy loam 27 inches thick. In the upper part it is dark reddish brown, and in the lower part it is dark brown. Bedrock is at a depth of 28 inches.

Included with these soils in mapping are small areas of the well drained Hogback soils on summits, the well drained and moderately well drained Mundal soils and the somewhat poorly drained Worden soils on back slopes and foot slopes, and the poorly drained Wilmington soils in depressions. The included soils make up 15 percent of the map unit. In some areas of the map unit rock outcrops cover up to 1 percent of the surface. In some map units boulders and stones cover less than 0.1 percent of the surface.

Permeability is moderate or moderately rapid in the Houghtonville and Rawsonville soils. The available water capacity is high in both soils. Depth to bedrock is more than 60 inches in the Houghtonville soil and 20 to 40 inches in the Rawsonville soil. Potential frost action is high in both soils.

Most areas of these soils are wooded. A few areas are farmed.

These soils are not suited to cultivated crops because of boulders and stones on the surface.

These soils are not suited to hay and poorly suited to pasture because of boulders and stones on the surface. If these soils are used for unimproved pasture, periodic clipping and using rotational grazing help to maintain a good stand of pasture plants.

The potential productivity for sugar maple on these soils is moderate. The main concerns in woodland management are the erosion hazard and the equipment limitation. Laying out skid trails and logging roads across the slope and installing culverts and water bars as needed help to control erosion. The soils are slippery when wet because of the high organic matter content in the surface layer and subsoil. Thus, in places the soils limit the use of logging equipment. On the Rawsonville soil, windthrow is a hazard because root growth is limited by depth to bedrock. Selective cutting helps to reduce the windthrow hazard.

Slope limits the use of these soils as sites for dwellings and septic tank absorption fields. In places excavation is needed to prepare nearly level sites for dwellings and septic tank absorption fields. Depth to bedrock also limits the use of the Rawsonville soil as sites for dwellings and septic tank absorption fields. Bedrock limits the ease of deep excavation. In places special construction, such as mounding the septic tank absorption field with a suitable fill material, is needed to raise the absorption field the required distance above bedrock.

These soils are in capability subclass VIs.

49D—Houghtonville-Rawsonville fine sandy loams, 15 to 25 percent slopes, very bouldery. This map unit consists of moderately steep soils on the summits, shoulders, and back slopes of hills, ridges, and mountains. The very deep, well drained Houghtonville soil is generally on shoulders and back slopes, and the moderately deep, well drained Rawsonville soil is on summits and shoulders. A typical area of the map unit is about 50 percent Houghtonville soil, 30 percent Rawsonville soil, and 20 percent other soils. Boulders and stones cover 0.1 to 3 percent of the surface. The Houghtonville and Rawsonville soils are so intermingled that it was not practical to map them separately.

Typically, the surface layer of the Houghtonville soil is covered by a layer of forest litter 4 inches thick. The surface layer is black fine sandy loam 2 inches thick. The subsurface layer is light brownish gray fine sandy loam 2 inches thick. The subsoil is 28 inches thick. In the upper part it is dark reddish brown fine sandy loam, in the middle part it is dark brown fine sandy loam and dark yellowish brown gravelly fine sandy loam, and in the lower part it is olive gravelly fine sandy loam. The substratum is dark olive gravelly fine sandy loam to a depth of 60 inches or more.

Typically, the surface layer of the Rawsonville soil is covered by a layer of forest litter 3 inches thick. The surface layer is black fine sandy loam 1 inch thick. The subsoil is fine sandy loam 27 inches thick. In the upper part it is dark reddish brown, and in the lower part it is dark brown. Bedrock is at a depth of 28 inches.

Included with these soils in mapping are small areas of the well drained Hogback soils on summits, the well drained and moderately well drained Mundal soils and the somewhat poorly drained Worden soils on back slopes and foot slopes, and the poorly drained Wilmington soils in depressions. The included soils make up 20 percent of the map unit. In some areas of the map unit rock outcrops cover up to 1 percent of the surface. In some map units boulders and stones cover less than 0.1 percent of the surface.

Permeability is moderate or moderately rapid in the Houghtonville and Rawsonville soils. The available water capacity is high in both soils. Depth to bedrock is more than 60 inches in the Houghtonville soil and 20 to 40 inches in the Rawsonville soil. Potential frost action is high in both soils.

Most areas of these soils are wooded. A few areas are farmed.

These soils are not suited to cultivated crops because of boulders and stones on the surface.

These soils are not suited to hay and are poorly suited to pasture because of boulders and stones on the surface. If these soils are used for unimproved pasture, periodic clipping and using rotational grazing help to maintain a good stand of pasture plants.

The potential productivity for sugar maple on these soils is moderate. The main concerns in woodland management are the erosion hazard and the equipment limitation. Laying out skid trails and logging roads across the slope and installing culverts and water bars as necessary help to control erosion. Operating logging equipment across the slope reduces the equipment limitation caused by slope. The soils are slippery when wet because of the high organic matter content in the surface layer and subsoil. Thus, in places the soils limit the use of logging equipment. On the Rawsonville soil, windthrow is a hazard because root growth is limited by depth to bedrock. Selective cutting helps to reduce the windthrow hazard.

Slope limits the use of these soils as sites for dwellings and septic tank absorption fields. In places extensive excavation is needed to prepare nearly level sites for dwellings and septic tank absorption fields. Depth to bedrock also limits the use of the Rawsonville soil as sites for dwellings and septic tank absorption fields. Bedrock limits the ease of deep excavation. Special construction, such as mounding the septic tank absorption field with a suitable fill material, is needed to raise the absorption field the required distance above bedrock.

These soils are in capability subclass VIs.

49E—Houghtonville-Rawsonville fine sandy loams, 25 to 50 percent slopes, very bouldery. This map unit

consists of steep and very steep soils on the summits, shoulders, and back slopes of hills, ridges, and mountains. The very deep well drained Houghtonville soil is generally on shoulders and back slopes, and the moderately deep, well drained Rawsonville soil is on summits and shoulders. A typical area of the map unit is about 50 percent Houghtonville soil, 30 percent Rawsonville soil, and 20 percent other soils. Boulders and stones cover 0.1 to 3 percent of the surface. The Houghtonville and Rawsonville soils are so intermingled that it was not practical to map them separately.

Typically, the surface layer of the Houghtonville soil is covered by a layer of forest litter 4 inches thick. The surface layer is black fine sandy loam 2 inches thick. The subsurface layer is light brownish gray fine sandy loam 2 inches thick. The subsoil is 28 inches thick. In the upper part it is dark reddish brown fine sandy loam, in the middle part it is dark brown fine sandy loam and dark yellowish brown gravelly fine sandy loam, and in the lower part it is olive gravelly fine sandy loam. The substratum is dark olive gravelly fine sandy loam to a depth of 60 inches or more.

Typically, the surface layer of the Rawsonville soil is covered by a layer of forest litter 3 inches thick. The surface layer is black fine sandy loam 1 inch thick. The subsoil is fine sandy loam 27 inches thick. In the upper part it is dark reddish brown, and in the lower part it is dark brown. Bedrock is at a depth of 28 inches.

Included with these soils in mapping are small areas of the well drained Hogback soils on summits and the well drained and moderately well drained Mundal soils on back slopes and foot slopes. In some areas of the map unit rock outcrops cover about 1 percent of the surface. In some map units boulders and stones cover less than 0.1 percent of the surface.

Permeability is moderate or moderately rapid in the Houghtonville and Rawsonville soils. The available water capacity is high in both soils. Depth to bedrock is more than 60 inches in the Houghtonville soil and 20 to 40 inches in the Rawsonville soil. Potential frost action is high in both soils.

Almost all areas of these soils are wooded.

These soils are not suited to cultivated crops, hay, or pasture because of boulders and stones on the surface and slope.

The potential productivity for sugar maple on these soils is moderate. The main concerns in woodland management are the erosion hazard and the equipment limitation. Laying out skid trails and logging roads across the slope and installing culverts and water bars as necessary help to control erosion. Operating logging equipment across the slope reduces the equipment limitation caused by slope. The soils are slippery when wet because of the high organic matter content in the surface layer and subsoil. Thus, in places the soils limit the use of logging equipment. On the Rawsonville soil, the windthrow hazard is also a concern. Windthrow is a hazard because root growth is limited by depth to bedrock. Selective cutting helps to reduce the windthrow hazard.

These soils are not suited to use as sites for dwellings and septic tank absorption fields because of depth to bedrock in the Rawsonville soil and slope.

These soils are in capability subclass VIIs.

50B—Colton loamy fine sand, 2 to 8 percent slopes. This is a very deep, gently sloping, excessively drained soil on terraces, knolls, and ridges.

Typically, the surface layer is covered by a layer of forest litter 4 inches thick. The surface layer is black loamy fine sand 1 inch thick. The subsurface layer is brown loamy fine sand 3 inches thick. The subsoil is 27 inches thick. In the upper part it is dark brown loamy sand, in the middle part it is dark red, red, and yellowish red gravelly loamy sand and very gravelly loamy coarse sand, and in the lower part it is strong brown gravelly coarse sand. The substratum is yellowish brown very gravelly coarse sand and light olive brown very cobbly coarse sand to a depth of 60 inches or more.

Included with this soil in mapping are areas of the well drained to excessively drained Adams soils and the well drained Monadnock soils on upper and middle side slopes and the moderately well drained Sheepscot soils on lower side slopes. Also included are areas of poorly drained soils in depressions. The included soils make up about 15 percent of the map unit. In some map units stones cover as much as 3 percent of the surface or the substratum is firm.

Permeability in this Colton soil is rapid in the subsoil and very rapid in the substratum. The available water capacity is very low. Depth to bedrock is more than 60 inches. Potential frost action is low.

Most areas of this soil are wooded. Some areas are farmed. Some areas are used as a source of sand and gravel.

This soil is suited to cultivated crops. The very low available water capacity, or droughtiness, is a management concern. Tillage practices that leave part of the crop residue on the surface and supplemental applications of organic matter help to increase the available water capacity.

This soil is well suited to hay and pasture. Overgrazing and droughtiness are management concerns. Using stocking rates within grazing capacity, using rotational grazing, and, during dry periods, deferred grazing help to maintain a good stand of hay and pasture plants. Planting drought-resistant plants also helps to overcome droughtiness.

The potential productivity for eastern white pine on this soil is high. The main concern in woodland management is the rate of seedling mortality. Some seedling losses occur during dry periods in summer. Using special planting stock and, in places, special site preparations,

such as bedding and furrowing before planting, helps to reduce seedling losses.

There are few limitations to use of this soil as sites for dwellings. The poor filtering capacity is a limitation for septic tank absorption fields. If the soil is used as sites for septic tank absorption fields, the ground water can be contaminated because the soil readily absorbs effluent but in most areas does not adequately filter it. Seepage can be monitored by periodically testing wells for possible contamination.

This soil is in capability subclass IIIs.

50C—Colton loamy fine sand, 8 to 15 percent slopes. This is a very deep, strongly sloping, excessively drained soil on terraces dissected by drainageways and on the tops of knolls and ridges.

Typically, the surface layer is covered by a layer of forest litter 4 inches thick. The surface layer is black loamy fine sand 1 inch thick. The subsurface layer is brown loamy fine sand 3 inches thick. The subsoil is 27 inches thick. In the upper part it is dark brown loamy sand, in the middle part it is dark red, red, and yellowish red gravelly loamy sand and very gravelly loamy coarse sand, and in the lower part it is strong brown gravelly coarse sand. The substratum is yellowish brown very gravelly coarse sand and light olive brown very cobbly coarse sand to a depth of 60 inches or more.

Included with this soil in mapping are areas of the well drained to excessively drained Adams soils and the well drained Monadnock soils on upper and middle side slopes and the moderately well drained Sheepscot soils on lower side slopes. Also included are areas of poorly drained soils in depressions. The included soils make up about 15 percent of the map unit. In some map units stones cover as much as 3 percent of the surface or the substratum is firm.

Permeability in this Colton soil is rapid in the subsoil and very rapid in the substratum. The available water capacity is very low. Depth to bedrock is more than 60 inches. Potential frost action is low.

Most areas of this soil are wooded. Some areas are farmed. Some areas are used as a source of sand and gravel.

This soil is suited to cultivated crops. Erosion is a hazard, and the very low available water capacity, or droughtiness, is a management concern. Crop rotation, cover cropping, contour farming, and using conservation tillage help to control erosion. Tillage practices that leave part of the crop residue on the surface and supplemental applications of organic matter help to increase the available water capacity.

This soil is well suited to hay and pasture. Erosion is a hazard, and overgrazing and droughtiness are management concerns. Using stocking rates within grazing capacity, using rotational grazing, and, during dry periods, deferred grazing help to maintain a good stand of hay and pasture plants and to control erosion. Planting drought-resistant plants helps to overcome droughtiness.

The potential productivity for eastern white pine on this soil is high. The main concern in woodland management is the rate of seedling mortality. Some seedling losses occur during dry periods in summer. Using special planting stock and, in places, special site preparations, such as bedding and furrowing before planting, help to reduce seedling losses.

Slope is the main limitation to use of this soil as sites for dwellings. In places excavation is needed to prepare nearly level building sites. The poor filtering capacity is the main limitation for septic tank absorption fields. The ground water can be contaminated if this soil is used as sites for septic tank absorption fields because the soil readily absorbs effluent but in most areas does not adequately filter it. Seepage can be monitored by periodically testing wells for possible contamination.

This soil is in capability subclass IVs.

50D—Colton loamy fine sand, 15 to 25 percent slopes. This is a very deep, moderately steep, excessively drained soil on terraces dissected by drainageways and on the tops of knolls and ridges.

Typically, the surface layer is covered by a layer of forest litter 4 inches thick. The surface layer is black loamy fine sand 1 inch thick. The subsurface layer is brown loamy fine sand 3 inches thick. The subsoil is 27 inches thick. In the upper part it is dark brown loamy sand, in the middle part it is dark red, red, and yellowish red gravelly loamy sand and very gravelly loamy coarse sand, and in the lower part it is strong brown gravelly coarse sand. The substratum is yellowish brown very gravelly coarse sand and light olive brown very cobbly coarse sand to a depth of 60 inches or more.

Included with this soil in mapping are areas of the well drained to excessively drained Adams soils and the well drained Monadnock soils on upper and middle side slopes and the moderately well drained Sheepscot soils on lower side slopes. Also included are areas of poorly drained soils in depressions. The included soils make up about 15 percent of the map unit. In some map units stones cover as much as 3 percent of the surface or the substratum is firm.

Permeability in this Colton soil is rapid in the subsoil and very rapid in the substratum. The available water capacity is very low. Depth to bedrock is more than 60 inches. Potential frost action is low.

Most areas of this soil are wooded. A few areas are farmed. Some areas are used as a source of sand and gravel.

This soil is poorly suited to cultivated crops. Erosion is a hazard, and the very low available water capacity, or droughtiness, and the equipment limitation are management concerns. Supplemental applications of organic matter help to increase the available water

capacity. Contour farming helps to overcome the equipment limitation.

This soil is suited to hay and pasture. Erosion is a hazard, and overgrazing, droughtiness, and the equipment limitation are management concerns. Long term use of this soil for hay or pasture is effective in controlling erosion. Using stocking rates within grazing capacity, using rotational grazing, and, during dry periods, deferred grazing help to maintain a good stand of hay and pasture plants and to control erosion. Planting drought-tolerant plants helps to overcome droughtiness. Seeding, fertilizing, and harvesting hay on the contour helps to overcome the equipment limitation.

The potential productivity for eastern white pine on this soil is high. The main concerns in woodland management are the erosion hazard, the rate of seedling mortality, and the equipment limitation. Laying out skid trails and logging roads across the slope and installing culverts and water bars as necessary help to control erosion. Operating logging equipment across the slope reduces the equipment limitation. Some seedling losses occur during dry periods in summer. Using special planting stock and, in places, special site preparations, such as bedding and furrowing before planting, helps to reduce seedling losses.

Slope is the main limitation to use of this soil as sites for dwellings and septic tank absorption fields. Extensive excavation is needed to prepare nearly level building sites. Special slope design is needed for septic tank absorption fields. The poor filtering capacity is also a limitation for sites for septic tank absorption fields. If this soil is used as sites for septic tank absorption fields, the ground water can be contaminated because this soil readily absorbs effluent but in most areas does not adequately filter it. Seepage can be monitored by periodically testing wells for possible contamination.

This soil is in capability subclass VIs.

50E—Colton loamy fine sand, 25 to 60 percent slopes. This is a very deep, steep and very steep, excessively drained soil on terraces dissected by drainageways and on the tops of knolls and ridges.

Typically, the surface layer is covered by a layer of forest litter 4 inches thick. The surface layer is black loamy fine sand 1 inch thick. The subsurface layer is brown loamy fine sand 3 inches thick. The subsoil is 27 inches thick. In the upper part it is dark brown loamy sand, in the middle part it is dark red, red, and yellowish red gravelly loamy sand and very gravelly loamy coarse sand, and in the lower part it is strong brown gravelly coarse sand. The substratum is yellowish brown very gravelly coarse sand and light olive brown very cobbly coarse sand to a depth of 60 inches or more.

Included with this soil in mapping are areas of the well drained to excessively drained Adams soils and the well drained Monadnock soils on upper and middle side slopes. The included soils make up about 15 percent of the map unit. In some map units stones cover as much as 3 percent of the surface.

Permeability in this Colton soil is rapid in the subsoil and very rapid in the substratum. The available water capacity is very low. Depth to bedrock is more than 60 inches. Potential frost action is low.

Almost all areas of this soil are wooded. Some areas are used as a source of sand and gravel.

This soil is not suited to cultivated crops, hay, or pasture because of slope.

The potential productivity for eastern white pine on this soil is high. The main concerns in woodland management are the erosion hazard, the rate of seedling mortality, and the equipment limitations. Laying out skid trails and logging roads across the slope and installing culverts and water bars as necessary help to control erosion. Operating logging equipment across the slope reduces the equipment limitation. Some seedling losses occur during dry periods in summer. Using special planting stock and, in places, special site preparations, such as bedding and furrowing before planting, help to reduce seedling losses.

This soil is not suited to use as sites for dwellings and septic tank absorption fields because of slope and the poor filtering capacity.

This soil is in capability subclass VIIs.

52A—Sheepscot fine sandy loam, 0 to 3 percent slopes. This is a very deep, nearly level, and moderately well drained soil on terraces and in slight depressions on upland plains.

Typically, the surface layer is very dark grayish brown fine sandy loam 8 inches thick. The subsoil is dark yellowish brown gravelly sandy loam 8 inches thick. The substratum is mottled, olive brown and grayish brown very gravelly loamy sand to a depth of 60 inches or more. In some areas the subsoil is very fine sandy loam or silt loam.

Included with this soil in mapping are small areas of the well drained to excessively drained Adams soils and the excessively drained Colton soils on low ridges and the poorly drained Wilmington soils in depressions. In a few map units stones cover as much as 3 percent of the surface. The included soils make up about 15 percent of the map unit. Also included, along small streams, are a few areas that are occasionally flooded.

Permeability in this Sheepscot soil is moderately rapid in the subsoil and rapid or very rapid in the substratum. The available water capacity is moderate. The seasonal high water table is at a depth of 1 1/2 to 2 1/2 feet in winter and spring. Depth to bedrock is more than 60 inches. Potential frost action is low.

Most areas of this soil are wooded. Some areas are farmed. Other areas are used as a source of sand and gravel.

This soil is suited to cultivated crops. The seasonal high water table is a management concern. In some

years tillage in spring is delayed because of the seasonal high water table. In areas suitable for outlets, a subsurface drainage system can be used to lower the seasonal high water table.

This soil is well suited to hay and pasture. Overgrazing and the seasonal high water table are management concerns. Using stocking rates within grazing capacity, using rotational grazing, and, during wet periods, deferred grazing help to maintain a good stand of hay and pasture plants. Planting water-tolerant plants helps to overcome the seasonal high water table.

The potential productivity for white spruce on this soil is very high. There are few concerns in woodland management.

The seasonal high water table is the main limitation to use of this soil as sites for dwellings and septic tank absorption fields. The poor filtering capacity is also a limitation for septic tank absorption fields. In places a suitable fill material is needed to raise the existing grade of the site. Additional waterproofing practices and footing drains are needed to prevent wet basements, but few places are suitable for outlets for drainage systems. If this soil is used as sites for septic tank absorption fields, the ground water can be contaminated because this soil readily absorbs effluent but in most areas does not adequately filter it. Seepage can be monitored by periodically testing wells for possible contamination.

This soil is in capability subclass IIw.

52B—Sheepscot fine sandy loam, 3 to 8 percent slopes. This is a very deep, gently sloping, moderately well drained soil on terraces and on back slopes of knolls and ridges.

Typically, the surface layer is very dark grayish brown fine sandy loam 6 inches thick. The subsoil is dark yellowish brown gravelly sandy loam 8 inches thick. The substratum is mottled, olive brown and grayish brown very gravelly loamy sand to a depth of 60 inches or more. In some areas the subsoil is very fine sandy loam or silt loam.

Included with this soil in mapping are small areas of the well drained to excessively drained Adams soils and the excessively drained Colton soils on low ridges and the poorly drained Wilmington soils in depressions. In some map units stones cover as much as 3 percent of the surface. The included soils make up about 15 percent of the map unit.

Permeability in this Sheepscot soil is moderately rapid in the subsoil and rapid or very rapid in the substratum. The available water capacity is moderate. The seasonal high water table is at a depth of 1 1/2 to 2 1/2 feet in winter and spring. Depth to bedrock is more than 60 inches. Potential frost action is low.

Most areas of this soil are wooded. Some areas are farmed. Other areas are used as a source of sand and gravel.

This soil is suited to cultivated crops. The seasonal high water table is a management concern. In some years tillage in spring is delayed because of the seasonal high water table. In areas suitable for outlets, a subsurface drainage system can be used to lower the seasonal high water table.

This soil is well suited to hay and pasture. Erosion is a hazard, and overgrazing and the seasonal high water table are management concerns. Using stocking rates within grazing capacity, using rotational grazing, and, during wet periods, deferred grazing help to maintain a good stand of hay and pasture plants and to control erosion. Planting water-tolerant plants helps to overcome the seasonal high water table.

The potential productivity for white spruce on this soil is very high. There are few concerns in woodland management.

The seasonal high water table is the main limitation to use of this soil as sites for dwellings and septic tank absorption fields. The poor filtering capacity is also a limitation for septic tank absorption fields. In places a suitable fill material is needed to raise the existing grade of the site. Additional waterproofing practices and footing drains are needed to prevent wet basements. If this soil is used as sites for septic tank absorption fields, the ground water can be contaminated because the soil readily absorbs effluent but in most areas does not adequately filter it. Seepage can be monitored by periodically testing wells for possible contamination.

This soil is in capability subclass IIw.

56B—Monadnock fine sandy loam, 3 to 8 percent slopes, very stony. This is a very deep, gently sloping, well drained soil on the tops and sides of hills, ridges, and mountains. Stones cover 0.1 to 3 percent of the surface.

Typically, the surface layer is covered by a layer of forest litter 2 inches thick. The surface layer is very dark grayish brown fine sandy loam 2 inches thick. The subsoil is 22 inches thick. In the upper part it is dark reddish brown fine sandy loam, in the middle part it is brown gravelly fine sandy loam, and in the lower part it is dark yellowish brown gravelly fine sandy loam. The substratum is light olive brown and olive very gravelly loamy sand to a depth of 60 inches or more. In some areas the surface layer and subsoil are very fine sandy loam or silt loam.

Included with this soil in mapping are small areas of the excessively drained Colton soils on summits near streams, the well drained Houghtonville soils on summits, the well drained and moderately well drained Mundal soils on back slopes, and the moderately well drained Sheepscot soils and the poorly drained Wilmington soils on foot slopes, toe slopes, and in depressions. The included soils make up about 15 percent of the map unit. In a few map units stones cover less than 0.1 percent of the surface.

Permeability in this Monadnock soil is moderate in the subsoil and moderately rapid in the substratum. The available water capacity is moderate. Depth to bedrock is more than 60 inches. Potential frost action is low.

Most areas of this soil are wooded. A few areas are farmed.

This soil is not suited to cultivated crops because of stones on the surface.

This soil is not suited to hay and poorly suited to pasture because of stones on the surface. If this soil is used for unimproved pasture, periodic clipping and using rotational grazing help to maintain a good stand of pasture plants.

The potential productivity for eastern white pine on this soil is high. There are few concerns in woodland management.

There are few limitations to use of this soil as sites for dwellings and septic tank absorption fields.

This soil is in capability subclass VIs.

56C—Monadnock fine sandy loam, 8 to 15 percent slopes, very stony. This is a very deep, strongly sloping, well drained soil on the tops and sides of hills, ridges, and mountains. Stones cover 0.1 to 3 percent of the surface.

Typically, the surface layer is covered by a layer of forest litter 2 inches thick. The surface layer is very dark grayish brown fine sandy loam 2 inches thick. The subsoil is 22 inches thick. In the upper part it is dark reddish brown fine sandy loam, in the middle part it is brown gravelly fine sandy loam, and in the lower part it is dark yellowish brown gravelly fine sandy loam. The substratum is light olive brown and olive very gravelly loamy sand to a depth of 60 inches or more. In some areas the surface layer and subsoil are very fine sandy loam or silt loam.

Included with this soil in mapping are small areas of the excessively drained Colton soils on summits near streams, the well drained Houghtonville soils on summits, the well drained and moderately well drained Mundal soils on back slopes, and the moderately well drained Sheepscot soils and the poorly drained Wilmington soils on foot slopes, toe slopes, and in depressions. The included soils make up about 15 percent of the map unit. In a few map units stones cover less than 0.1 percent of the surface.

Permeability in this Monadnock soil is moderate in the subsoil and moderately rapid in the substratum. The available water capacity is moderate. Depth to bedrock is more than 60 inches. Potential frost action is low.

Most areas of this soil are wooded. A few areas are farmed.

This soil is not suited to cultivated crops because of stones on the surface.

This soil is not suited to hay and poorly suited to pasture because of stones on the surface. If this soil is used for unimproved pasture, periodic clipping and using rotational grazing help to maintain a good stand of pasture plants.

The potential productivity for eastern white pine on this soil is high. There are few concerns in woodland management.

Slope is the main limitation to use of this soil as sites for dwellings and septic tank absorption fields. In places excavation and land grading are needed to prepare nearly level sites for dwellings and septic tank absorption fields.

This soil is in capability subclass VIs.

56D—Monadnock fine sandy loam, 15 to 25 percent slopes, very stony. This is a very deep, moderately steep, well drained soil on the tops and sides of hills, ridges, and mountains. Stones cover 0.1 to 3 percent of the surface.

Typically, the surface layer is covered by a layer of forest litter 2 inches thick. The surface layer is very dark grayish brown fine sandy loam 2 inches thick. The subsoil is 22 inches thick. In the upper part it is dark reddish brown fine sandy loam, in the middle part it is brown gravelly fine sandy loam, and in the lower part it is dark yellowish brown gravelly fine sandy loam. The substratum is light olive brown and olive very gravelly loamy sand to a depth of 60 inches or more. In some areas the surface layer and subsoil are very fine sandy loam or silt loam.

Included with this soil in mapping are small areas of the excessively drained Colton soils on summits near streams, the well drained Houghtonville soils on summits, the well drained and moderately well drained Mundal soils on back slopes, and the moderately well drained Sheepscot soils on foot slopes, on toe slopes, and in depressions. The included soils make up about 15 percent of the map unit. In a few map units stones cover less than 3 percent of the surface.

Permeability in this Monadnock soil is moderate in the subsoil and moderately rapid in the substratum. The available water capacity is moderate. Depth to bedrock is more than 60 inches. Potential frost action is low.

Most areas of this soil are wooded. A few areas are farmed.

This soil is not suited to cultivated crops because of stones on the surface.

This soil is not suited to hay and poorly suited to pasture because of stones on the surface. If this soil is used for unimproved pasture, periodic clipping and using rotational grazing help to maintain a good stand of pasture plants.

The potential productivity for eastern white pine on this soil is high. The main concerns in woodland management are the erosion hazard and the equipment limitation. Laying out skid trails and logging roads across the slope and installing culverts and water bars as necessary help to control erosion. Operating logging

equipment across the slope reduces the equipment limitation.

Slope is the main limitation to use of this soil as sites for dwellings and septic tank absorption fields. Extensive excavation and land grading are needed to prepare nearly level building sites. Special slope design is needed for sites for septic tank absorption fields.

This soil is in capability subclass VIs.

56E—Monadnock fine sandy loam, 25 to 50 percent slopes, very stony. This is a very deep, steep and very steep, well drained soil on the tops and sides of hills, ridges, and mountains. Stones cover 0.1 to 3 percent of the surface.

Typically, the surface layer is covered by a layer of forest litter 2 inches thick. The surface layer is very dark grayish brown fine sandy loam 2 inches thick. The subsoil is 22 inches thick. In the upper part it is dark reddish brown fine sandy loam, in the middle part it is brown gravelly fine sandy loam, and in the lower part it is dark yellowish brown gravelly fine sandy loam. The substratum is light olive brown and olive very gravelly loamy sand to a depth of 60 inches or more. In some areas the surface layer and subsoil are very fine sandy loam or silt loam.

Included with this soil in mapping are small areas of the excessively drained Colton soils on summits near streams, the well drained Houghtonville soils on summits, and the well drained and moderately well drained Mundal soils on back slopes. The included soils make up about 15 percent of the map unit. In a few map units stones cover less than 0.1 percent of the surface.

Permeability in this Monadnock soil is moderate in the subsoil and moderately rapid in the substratum. The available water capacity is moderate. Depth to bedrock is more than 60 inches. Potential frost action is low.

Almost all areas of this soil are wooded.

This soil is not suited to cultivated crops, hay, or pasture because of stones on the surface and slope.

The potential productivity for eastern white pine on this soil is high. The main concerns in woodland management are the erosion hazard and the equipment limitation. Laying out skid trails and logging roads across the slope and installing culverts and water bars as necessary help to control erosion. Operating logging equipment across the slope reduces the equipment limitation.

This soil is not suited to use as sites for dwellings and septic tank absorption fields because of slope.

This soil is in capability subclass VIIs.

60B—Houghtonville fine sandy loam, 3 to 8 percent slopes. This soil is a very deep, gently sloping, well drained soil on the summits, shoulders, and back slopes of hills, ridges, and mountains.

Typically, the surface layer is very dark grayish brown fine sandy loam 8 inches thick. The subsoil is 24 inches thick. In the upper part it is dark brown fine sandy loam, in the middle part it is dark yellowish brown gravelly fine sandy loam, and in the lower part it is olive gravelly fine sandy loam. The substratum is dark olive gravelly fine sandy loam to a depth of 60 inches or more. In some areas the subsoil is yellower than typical.

Included with this soil in mapping are small areas of the well drained Hogback and Rawsonville soils on the tops of hills and ridges, the well drained and moderately well drained Mundal soils on back slopes, and the somewhat poorly drained Worden soils and the poorly drained Wilmington soils on lower side slopes and in depressions. In some areas stones cover as much as 3 percent of the surface. In some areas on upper side slopes, bedrock is at a depth of 40 to 60 inches. The included soils make up about 15 percent of the map unit.

Permeability in this Houghtonville soil is moderate or moderately rapid. The available water capacity is high. Depth to bedrock is more than 60 inches. Potential frost action is high.

Most areas of this soil are farmed. Some areas are wooded.

This soil is poorly suited to cultivated crops. Erosion is a hazard, and the short growing season is a management concern. Crop rotation, cover cropping, contour farming, and using conservation tillage help to control erosion. Installing diversion ditches to divert surface runoff help to control erosion.

This soil is well suited to hay and pasture. Erosion is a hazard, and overgrazing and the short growing season are management concerns. Using stocking rates within grazing capacity and rotational grazing help to maintain a good stand of hay and pasture plants and to control erosion.

The potential productivity for sugar maple on this soil is moderate. The main concern in woodland management is the equipment limitation. The soil is slippery when wet because of the high organic matter content in the surface layer and subsoil. Thus, in places the soil limits the use of logging equipment.

There are few limitations to use of this soil as sites for dwellings and septic tank absorption fields.

This soil is in capability subclass IIe.

60C—Houghtonville fine sandy loam, 8 to 15 percent slopes. This is a very deep, strongly sloping, well drained soil on the summits, shoulders, and back slopes of hills, ridges, and mountains.

Typically, the surface layer is very dark grayish brown fine sandy loam 6 inches thick. The subsoil is 24 inches thick. In the upper part it is dark brown fine sandy loam, in the middle part it is dark yellowish brown gravelly fine sandy loam, and in the lower part it is olive gravelly fine sandy loam. The substratum is dark olive gravelly fine sandy loam to a depth of 60 inches or more. In some areas the subsoil is yellower than typical.

Included with this soil in mapping are small areas of the well drained Hogback and Rawsonville soils on the tops of hills and ridges, the well drained and moderately well drained Mundal soils on back slopes, and the somewhat poorly drained Worden soils and the poorly drained Wilmington soils on lower side slopes and in depressions. In some areas stones cover as much as 3 percent of the surface. In some areas on upper side slopes, bedrock is at a depth of 40 to 60 inches. The included soils make up about 15 percent of the map unit.

Permeability in this Houghtonville soil is moderate or moderately rapid. The available water capacity is high. Depth to bedrock is more than 60 inches. Potential frost action is high.

Most areas of this soil are farmed. Some areas are wooded.

This soil is poorly suited to cultivated crops. Erosion is a hazard, and the short growing season is a management concern. Crop rotation, cover cropping, contour farming, and using conservation tillage help to control erosion. Installing diversion ditches to divert surface runoff also helps to control erosion.

This soil is well suited to hay and pasture. Erosion is a hazard, and overgrazing and the short growing season are management concerns. Using stocking rates within grazing capacity and rotational grazing help to maintain a good stand of hay and pasture plants and to control erosion.

The potential productivity for sugar maple on this soil is moderate. The main concerns in woodland management are the erosion hazard and the equipment limitation. Laying out skid trails and logging roads across the slope and installing culverts and water bars as necessary help to control erosion. The soil is slippery when wet because of the high organic matter content in the surface layer and subsoil. Thus, in places the soil limits the use of logging equipment.

Slope is the main limitation to use of this soil as sites for dwellings and septic tank absorption fields. In places excavation and land grading are needed to prepare nearly level sites for dwellings and septic tank absorption fields.

This soil is in capability subclass IIIe.

60D—Houghtonville fine sandy loam, 15 to 25 percent slopes. This soil is a very deep, moderately steep, well drained soil on the summits, shoulders, and back slopes of hills, ridges, and mountains.

Typically, the surface layer is very dark grayish brown fine sandy loam 6 inches thick. The subsoil is 24 inches thick. In the upper part it is dark brown fine sandy loam, in the middle part it is dark yellowish brown gravelly fine sandy loam, and in the lower part it is olive gravelly fine sandy loam. The substratum is dark olive gravelly fine sandy loam to a depth of 60 inches or more. In some areas the subsoil is yellower than typical.

Included with this soil in mapping are small areas of the well drained Hogback and Rawsonville soils on the tops of hills and ridges, the well drained and moderately well drained Mundal soils on back slopes, and the somewhat poorly drained Worden soils and the poorly drained Wilmington soils on lower side slopes. In some areas stones cover as much as 3 percent of the surface. In some areas on upper side slopes, bedrock is at a depth of 40 to 60 inches. The included soils make up about 15 percent of the map unit.

Permeability in this Houghtonville soil is moderate or moderately rapid. The available water capacity is high. Depth to bedrock is more than 60 inches. Potential frost action is high.

Most areas of this soil are farmed. Some areas are wooded.

This soil is poorly suited to cultivated crops. Erosion is a hazard, and the short growing season and the equipment limitation are management concerns. Crop rotation, cover cropping, contour farming, and using conservation tillage help to control erosion. Contour farming helps to overcome the equipment limitation.

This soil is suited to hay and pasture. Erosion is a hazard, overgrazing, the equipment limitation, and the short growing season are management concerns. Long term use of this soil for hay or pasture is effective in controlling erosion. Using stocking rates within grazing capacity and rotational grazing help to maintain a good stand of hay and pasture plants and to control erosion. Seeding, fertilizing, and harvesting hay on the contour help to overcome the equipment limitation.

The potential productivity for sugar maple on this soil is moderate. The main concerns in woodland management are the erosion hazard and the equipment limitation. Laying out skid trails and logging roads across the slope and installing culverts and water bars as necessary help to control erosion. Operating logging equipment across the slope reduces the equipment limitation caused by slope. The soil is slippery when wet because of the high organic matter content in the surface layer and subsoil. Thus, in places, the soil limits the use of logging equipment.

Slope is the main limitation to use of this soil as sites for dwellings and septic tank absorption fields. Extensive excavation and land grading are needed to prepare nearly level sites for dwellings. Special slope design is needed for sites for septic tank absorption fields.

This soil is in capability subclass IVe.

61B—Houghtonville fine sandy loam, 3 to 8 percent slopes, very stony. This is a very deep, gently sloping, well drained soil on the tops and sides of hills, ridges, and mountains. Stones are on 0.1 to 3 percent of the surface.

Typically, the surface layer is covered by a layer of forest litter 4 inches thick. The surface layer is black fine sandy loam 2 inches thick. The subsurface layer is light

brownish gray fine sandy loam 2 inches thick. The subsoil is 28 inches thick. In the upper part it is dark reddish brown fine sandy loam, in the middle part it is dark brown and dark yellowish brown fine sandy loam and gravelly fine sandy loam, and in the lower part it is olive gravelly fine sandy loam. The substratum is dark olive gravelly fine sandy loam to a depth of 60 inches or more. In some areas the subsoil is yellower than typical.

Included with this soil in mapping are small areas of the well drained Hogback and Rawsonville soils on the tops of mountains and ridges, the well drained and moderately well drained Mundal soils on middle side slopes, and the somewhat poorly drained Worden soils and the poorly drained Wilmington soils on lower side slopes and in depressions. In some areas on upper side slopes, bedrock is at a depth of 40 to 60 inches. The included areas make up about 15 percent of the map unit.

Permeability in this Houghtonville soil is moderate or moderately rapid. The available water capacity is high. Depth to bedrock is more than 60 inches. Potential frost action is high.

Most areas of this soil are wooded. A few areas are farmed.

This soil is not suited to cultivated crops because of stones on the surface.

This soil is not suited to hay and poorly suited to pasture because of stones on the surface. If this soil is used for unimproved pasture, periodic clipping and using rotational grazing help to maintain a good stand of pasture plants.

The potential productivity for sugar maple on this soil is moderate. The main concern in woodland management is the equipment limitation. The soil is slippery when wet because of the high organic matter content in the surface layer and subsoil. Thus, in places the soil limits the use of logging equipment.

There are few limitations to use of this soil as sites for dwellings and septic tank absorption fields.

This soil is in capability subclass VIs.

61C—Houghtonville fine sandy loam, 8 to 15 percent slopes, very stony. This is a very deep, strongly sloping, well drained soil on the tops and sides of hills, ridges, and mountains. Stones cover 0.1 to 3 percent of the surface.

Typically, the surface layer is covered by a layer of forest litter 4 inches thick. The surface layer is black fine sandy loam 2 inches thick. The subsurface layer is light brownish gray fine sandy loam 2 inches thick. The subsoil is 28 inches thick. In the upper part it is dark reddish brown fine sandy loam, in the middle part it is dark brown and dark yellowish brown fine sandy loam and gravelly fine sandy loam, and in the lower part it is olive gravelly fine sandy loam. The substratum is dark olive gravelly fine sandy loam to a depth of 60 inches or more. In some areas the subsoil is yellower than typical.

Included with this soil in mapping are small areas of the well drained Hogback and Rawsonville soils on the tops of mountains and ridges, the well drained and moderately well drained Mundal soils on middle side slopes, and the somewhat poorly drained Worden soils and the poorly drained Wilmington soils on lower side slopes and in depressions. In some areas bedrock is on upper side slopes at a depth of 40 to 60 inches. The included areas make up about 15 percent of the map unit.

Permeability in this Houghtonville soil is moderate or moderately rapid. The available water capacity is high. Depth to bedrock is more than 60 inches. Potential frost action is high.

Most areas of this soil are wooded. A few areas are farmed.

This soil is not suited to cultivated crops because of stones on the surface.

This soil is not suited to hay and poorly suited to pasture because of stones on the surface. If the soil is used for unimproved pasture, periodic clipping and using rotational grazing help to maintain a good stand of pasture plants.

The potential productivity for sugar maple on this soil is moderate. The main concerns in woodland management are the erosion hazard and the equipment limitation. Laying out skid trails and logging roads across the slope and installing culverts and water bars as necessary help to control erosion. The soil is slippery when wet because of the high organic matter content in the surface layer and subsoil. Thus, in places the soil limits the use of logging equipment.

Slope is the main limitation to use of this soil as sites for dwellings and septic tank absorption fields. In places excavation and land grading are needed to prepare nearly level sites for dwellings and septic tank absorption fields.

This soil is in capability subclass VIs.

61D—Houghtonville fine sandy loam, 15 to 25 percent slopes, very stony. This is a very deep, moderately steep, well drained soil on the tops and sides of hills, ridges, and mountains. Stones cover 0.1 to 3 percent of the surface.

Typically, the surface layer is covered by a layer of forest litter 4 inches thick. The surface layer is black fine sandy loam 2 inches thick. The subsurface layer is light brownish gray fine sandy loam 2 inches thick. The subsoil is 28 inches thick. In the upper part it is dark reddish brown fine sandy loam, in the middle part it is dark brown and dark yellowish brown fine sandy loam and gravelly fine sandy loam, and in the lower part it is olive gravelly fine sandy loam. The substratum is dark olive gravelly fine sandy loam to a depth of 60 inches or more. In some areas the subsoil has yellower colors.

Included with this soil in mapping are small areas of the well drained Hogback and Rawsonville soils on

mountaintops and ridgetops, the well drained and moderately well drained Mundal soils on middle side slopes, and the somewhat poorly drained Worden soils and the poorly drained Wilmington soils on lower side slopes and in depressions. In some areas on upper side slopes, bedrock is at a depth of 40 to 60 inches. The included areas make up about 15 percent of the map unit.

Permeability in this Houghtonville soil is moderate or moderately rapid. The available water capacity is high. Depth to bedrock is more than 60 inches. Potential frost action is high.

Most areas of this soil are wooded. A few areas are farmed.

This soil is not suited to cultivated crops because of stones on the surface.

This soil is not suited to hay and poorly suited to pasture because of stones on the surface. If this soil is used for unimproved pasture, periodic clipping and using rotational grazing help to maintain a good stand of pasture plants.

The potential productivity for sugar maple on this soil is moderate. The main concerns in woodland management are the erosion hazard and the equipment limitation. Laying out skid trails and logging roads across the slope and installing culverts and water bars as necessary help to control erosion. Operating logging equipment across the slope reduces the equipment limitation caused by slope. The soil is slippery when wet because of the high organic matter content in the surface layer and subsoil. Thus, in places the soil limits the use of logging equipment.

Slope is the main limitation to use of this soil as sites for dwellings and septic tank absorption fields. Extensive excavation and land grading are needed to prepare nearly level building sites. Special contour design is needed for sites for septic tank absorption fields.

This soil is in capability subclass VIs.

61E—Houghtonville fine sandy loam, 25 to 50 percent slopes, very stony. This is a very deep, steep and very steep, well drained soil on the tops and sides of hills, ridges, and mountains. Stones are on 0.1 to 3 percent of the surface.

Typically, the surface layer is covered by a layer of forest litter 4 inches thick. The surface layer is black fine sandy loam 2 inches thick. The subsurface layer is light brownish gray fine sandy loam 2 inches thick. The subsoil is 28 inches thick. In the upper part it is dark reddish brown fine sandy loam, in the middle part it is dark brown and dark yellowish brown fine sandy loam and gravelly fine sandy loam, and in the lower part it is olive gravelly fine sandy loam. The substratum is dark olive gravelly fine sandy loam to a depth of 60 inches or more. In some areas the subsoil is yellower.

Included with this soil in mapping are small areas of the well drained Hogback and Rawsonville soils on the tops of mountains and ridges and the well drained and moderately well drained Mundal soils on middle side slopes. In some areas on upper side slopes, bedrock is at a depth of 40 to 60 inches. The included areas make up about 15 percent of the map unit.

Permeability in this Houghtonville soil is moderate or moderately rapid. The available water capacity is high. Depth to bedrock is more than 60 inches. Potential frost action is high.

Almost all areas of this soil are wooded.

This soil is not suited to cultivated crops, hay, or pasture because of stones on the surface and slope.

The potential productivity for sugar maple on this soil is moderate. The main concerns in woodland management are the erosion hazard and the equipment limitation. Laying out skid trails and logging roads across the slope and installing culverts and water bars as necessary help to control erosion. Operating logging equipment across the slope reduces the equipment limitation caused by slope. The soil is slippery when wet because of the high organic matter content in the surface layer and subsoil. Thus, in places the soil limits the use of logging equipment.

This soil is not suited to dwellings and septic tank absorption fields because of slope.

This soil is in capability subclass VIIs.

62—Markey muck. This is a very deep, nearly level, very poorly drained soil in bogs and swamps. Slopes range from 0 to 2 percent.

Typically, in the uppermost 34 inches this soil is dark reddish brown and black muck. Below that, the substratum is gray fine sand to a depth of 60 inches or more. In some areas the substratum is fine sandy loam. In some areas the organic layers are more than 51 inches thick.

Included with this soil in mapping are small areas of the somewhat poorly drained Westbury soils and the poorly drained Wilmington soils on toe slopes adjacent to bogs and swamps. Also included are some very poorly drained soils on flood plains. The included soils make up about 15 percent of the map unit.

Permeability in this Markey soil ranges from moderately slow to moderately rapid in the organic layers and is rapid in the substratum. The available water capacity is high. Depth to bedrock is more than 60 inches. The seasonal high water table is near or above the surface from autumn through spring. Potential frost action is high.

Almost all areas of this soil are wooded.

This soil is not suited to cultivated crops, hay, or pasture because of the seasonal high water table.

The potential productivity for quaking aspen on this soil is moderate. The main concerns in woodland management are the equipment limitation, the windthrow hazard, and the rate of seedling mortality. Operating logging equipment is difficult during extended wet

periods. Logging operations are more efficient when the soil is frozen. Windthrow is a hazard during wet periods because root growth is limited by the seasonal high water table. Selective cutting helps to reduce the windthrow hazard. Seedling losses occur because of the seasonal high water table. Using special site preparations and special planting stock help to reduce seedling losses.

This soil is not suited to use as sites for dwellings and septic tank absorption fields because of the seasonal high water table, ponding, and low strength.

This soil is in capability subclass VIw.

63C—Berkshire-Tunbridge fine sandy loams, 8 to 15 percent slopes, very stony. This map unit consists of strongly sloping soils on hills, ridges, and mountains. The very deep, well drained Berkshire soil is generally on back slopes and the moderately deep, well drained Tunbridge soil is on summits and shoulders. A typical area of the map unit is about 50 percent Berkshire soil, 35 percent Tunbridge soil, and 15 percent other soils. Stones cover 0.1 to 3 percent of the surface. The Berkshire and Tunbridge soils are so intermingled that it was not practical to map them separately.

Typically, the surface layer of the Berkshire soil is covered by a layer of forest litter 2 inches thick. The surface layer is very dark grayish brown fine sandy loam 2 inches thick. The subsoil is fine sandy loam 21 inches thick. In the upper part it is dark brown, in the middle part it is dark yellowish brown, and in the lower part it is olive brown. The substratum is olive gravelly fine sandy loam to a depth of 60 inches or more.

Typically, the surface layer of the Tunbridge soil is covered by a layer of forest litter 1 inch thick. The surface layer is dark brown fine sandy loam 2 inches thick. The subsoil is fine sandy loam 25 inches thick. In the upper part it is dark reddish brown, and in the lower part it is dark brown. Bedrock is at a depth of 27 inches.

Included with these soils in mapping are small areas of the somewhat excessively drained Lyman soils on summits, the well drained Marlow and Monadnock soils on back slopes and shoulders, and the somewhat poorly drained Westbury soils on foot slopes, on toe slopes, and in depressions. The included soils make up about 15 percent of the map unit. In some areas of the map unit rock outcrops cover as much as 1 percent of the surface, stones cover less than 0.1 percent of the surface, or depth to bedrock ranges from 40 to 60 inches.

Permeability is moderate or moderately rapid in the Berkshire and Tunbridge soils. The available water capacity is high in the Berkshire soil and moderate in the Tunbridge soil. Depth to bedrock is more than 60 inches in the Berkshire soil and 20 to 40 inches in the Tunbridge soil. Potential frost action is moderate for both soils.

Most areas of these soils are wooded. Some areas are farmed.

These soils are not suited to cultivated crops because of stones on the surface.

These soils are not suited to hay and poorly suited to pasture because of stones on the surface. If these soils are used for unimproved pasture, periodic clipping and using rotational grazing help to maintain a good stand of pasture plants.

The potential productivity for eastern white pine on the Berkshire soil is very high, and that for sugar maple on the Tunbridge soil is moderate. There are few concerns in woodland management. On the Tunbridge soil, windthrow is a hazard because root growth is limited by depth to bedrock. Selective cuttings help to reduce the windthrow hazard.

Slope limits the use of these soils as sites for dwellings and septic tank absorption fields. In places excavation is needed to prepare nearly level sites for dwellings and septic tank absorption fields. Depth to bedrock also limits the use of the Tunbridge soil as sites for dwellings and septic tank absorption fields. Bedrock limits the ease of deep excavation. In places special construction, such as mounding the septic tank absorption field with a suitable fill material, is needed to raise the absorption field the required distance above bedrock.

These soils are in capability subclass VIs.

63D—Berkshire-Tunbridge fine sandy loams, 15 to 25 percent slopes, very stony. This map unit consists of moderately steep soils on hills, ridges, and mountains. The very deep, well drained Berkshire soil is on back slopes, and the moderately deep, well drained Tunbridge soil is on summits and shoulders. A typical area of the map unit is about 40 percent Berkshire soil, 40 percent Tunbridge soil, and 20 percent other soils. Stones cover 0.1 to 3 percent of the surface. The Berkshire and Tunbridge soils are so intermingled that it was not practical to map them separately.

Typically, the surface layer of the Berkshire soil is covered by a layer of forest litter 2 inches thick. The surface layer is very dark grayish brown fine sandy loam 2 inches thick. The subsoil is fine sandy loam 21 inches thick. In the upper part it is dark brown, in the middle part it is dark yellowish brown, and in the lower part it is olive brown. The substratum is olive gravelly fine sandy loam to a depth of 60 inches or more.

Typically, the surface layer of the Tunbridge soil is covered by a layer of forest litter 1 inch thick. The surface layer is dark brown fine sandy loam 2 inches thick. The subsoil is fine sandy loam 25 inches thick. In the upper part it is dark reddish brown, and in the lower part it is dark brown. Bedrock is at a depth of 27 inches.

Included with these soils in mapping are small areas of the somewhat excessively drained Lyman soils on summits, the well drained Marlow and Monadnock soils

on back slopes and shoulders, and the somewhat poorly drained Westbury soils on foot slopes, on toe slopes, and in depressions. The included soils make up about 20 percent of the map unit. In some areas of the map unit rock outcrops cover as much as 1 percent of the surface, stones cover less than 0.1 percent of the surface, or depth to bedrock ranges from 40 to 60 inches.

Permeability is moderate or moderately rapid in the Berkshire and Tunbridge soils. The available water capacity is high in the Berkshire soil and moderate in the Tunbridge soil. Depth to bedrock is more than 60 inches in the Berkshire soil and 20 to 40 inches in the Tunbridge soil. Potential frost action is moderate for both soils.

Most areas of these soils are wooded. Some areas are farmed.

These soils are not suited to cultivated crops because of stones on the surface.

These soils are not suited to hay and poorly suited to pasture because of stones on the surface. If these soils are used for unimproved pasture, periodic clipping and using rotational grazing help to maintain a good stand of pasture plants.

The potential productivity for eastern white pine on the Berkshire soil is very high, and that for sugar maple on the Tunbridge soil is moderate. The main concerns in woodland management are the erosion hazard and the equipment limitation. Laying out skid trails and logging roads across the slope and installing culverts and water bars as necessary help to control erosion. Operating logging equipment across the slope reduces the equipment limitation. On the Tunbridge soil, the rate of seedling mortality and the windthrow hazard are also concerns. Some seedling losses occur during dry periods in summer. Using special planting stock and special site preparations help to reduce seedling losses. Windthrow is a hazard because root growth is limited by depth to bedrock. Selective cuttings help to reduce the windthrow hazard.

Slope limits the use of these soils as sites for dwellings and septic tank absorption fields. In places extensive excavation is needed to prepare nearly level sites for dwellings and septic tank absorption fields. Depth to bedrock limits the use of the Tunbridge soil as sites for dwellings and septic tank absorption fields. Bedrock limits the ease of deep excavation. In places special construction, such as mounding the septic tank absorption field with a suitable fill material, is needed to raise the absorption field the required distance above bedrock.

These soils are in capability subclass VIs.

63E—Berkshire-Tunbridge fine sandy loams, 25 to 50 percent slopes, very stony. This map unit consists of steep and very steep soils on the summits, shoulders, and back slopes of hills, ridges, and mountains. The very deep, well drained Berkshire soil generally is on back slopes, and the moderately deep, well drained Tunbridge soil is on summits and shoulders. A typical area of the map unit is about 45 percent Berkshire soil, 35 percent Tunbridge soil, and 20 percent other soils. Stones cover 0.1 to 3 percent of the surface. The Berkshire and Tunbridge soils are so intermingled that it was not practical to map them separately.

Typically, the surface layer of the Berkshire soil is covered by a layer of forest litter 2 inches thick. The surface layer is very dark grayish brown fine sandy loam 2 inches thick. The subsoil is fine sandy loam 21 inches thick. In the upper part it is dark brown, in the middle part it is dark yellowish brown, and in the lower part it is olive brown. The substratum is olive gravelly fine sandy loam to a depth of 60 inches or more.

Typically, the surface layer of the Tunbridge soil is covered by a layer of forest litter 1 inch thick. The surface layer is dark brown fine sandy loam 2 inches thick. The subsoil is fine sandy loam 25 inches thick. In the upper part it is dark reddish brown, and in the lower part it is dark brown. Bedrock is at a depth of 27 inches.

Included with these soils in mapping are small areas of the somewhat excessively drained Lyman soils on summits and the well drained Marlow and Monadnock soils on back slopes and shoulders. The included soils make up about 20 percent of the map unit. In some areas of the map unit rock outcrops cover as much as 1 percent of the surface, stones cover less than 0.1 percent of the surface, or depth to bedrock ranges from 40 to 60 inches.

Permeability is moderate or moderately rapid in the Berkshire and Tunbridge soils. The available water capacity is high in the Berkshire soil and moderate in the Tunbridge soil. Depth to bedrock is more than 60 inches in the Berkshire soil and 20 to 40 inches in the Tunbridge soil. Potential frost action is moderate for both soils.

Almost all areas of these soils are wooded.

These soils are not suited for cultivated crops, hay, or pasture because of stones on the surface and slope.

The potential productivity for eastern white pine on the Berkshire soil is very high, and that for sugar maple on the Tunbridge soils is moderate. The main concerns in woodland management are the erosion hazard and the equipment limitation. Laying out skid trails and logging roads across the slope and installing culverts and water bars as necessary help to control erosion. Operating logging equipment across the slope reduces the equipment limitation. On the Tunbridge soil, the rate of seedling mortality and the windthrow hazard are also concerns. Some seedling losses occur during dry periods in summer. Using special planting stock and special site preparations help to reduce seedling losses. Windthrow is a hazard because root growth is limited by depth to bedrock. Selective cuttings help to reduce the windthrow hazard.

These soils are not suited to use as sites for dwellings and septic tank absorption fields because of depth to bedrock in the Tunbridge soil and slope.

These soils are in capability subclass VIIs.

64—Udifluvents, loamy. These are very deep, nearly level and gently sloping, moderately well drained to excessively drained soils in narrow valleys along small streams. The streams change channels frequently because they are fast moving and easily blocked by ice or debris. These soils are subject to occasional flooding by stream overflow for brief periods.

These soils differ greatly from place to place. In many areas, however, the surface layer is covered by a layer of forest litter 1 inch thick. The surface layer is grayish fine sandy loam. Below that, there is brownish and grayish fine sandy loam and sandy loam mixed with various amounts of gravel and cobblestones.

Included with these soils in mapping are areas of the well drained to excessively drained Adams soils and the well drained Monadnock soils on low ridges and the moderately well drained Podunk soils and the poorly drained Rumney soils in depressions. In some map units there are recent deposits of sand, gravel, or cobbles on the surface. The included soils make up about 15 percent of the map unit.

The soil properties of Udifluvents, loamy, differ greatly from place to place. Onsite investigation is needed to identify the soil properties and to determine the hazards and limitations for specific uses.

Most areas of these soils are wooded. Some areas support little or no vegetation. These soils generally are not suited to use as cropland, hayland, pastureland, or sites for buildings or septic tank absorption fields.

This map unit is not assigned to a capability subclass.

65C—Hogback-Rawsonville fine sandy loams, 8 to 15 percent slopes, very rocky. This map unit consists of strongly sloping soils on hills, ridges, and mountains. The shallow, well drained Hogback soil is generally on summits, and the moderately deep, well drained Rawsonville soil is on shoulders and back slopes. A typical area of this map unit is about 45 percent Hogback soil, 30 percent Rawsonville soil, and 15 to 25 percent other soils. Stones cover 0.1 to 3 percent of the surface, and rock outcrops cover 1 to 10 percent. The Hogback and Rawsonville soils are so intermingled that it was not practical to map them separately.

Typically, the surface layer of the Hogback soil is covered by a layer of forest litter 2 inches thick. The surface layer is dark reddish brown fine sandy loam 2 inches thick. The subsoil is dark reddish brown fine sandy loam 13 inches thick. Bedrock is at a depth of 15 inches.

Typically, the surface layer of the Rawsonville soil is covered by a layer of forest litter 3 inches thick. The surface layer is black fine sandy loam 1 inch thick. The subsoil is fine sandy loam 27 inches thick. In the upper part it is dark reddish brown, and in the lower part it is dark brown. Bedrock is at a depth of 28 inches.

Included with these soils in mapping are small areas of the well drained Londonderry soils on ridgetops, the well drained Houghtonville soils on upper side slopes, and the well drained and moderately well drained Mundal soils and the somewhat poorly drained Worden soils on back slopes and foot slopes. Also included are areas of the poorly drained Wilmington soils and the very poorly drained Markey soils in depressions. The included soils make up about 15 to 25 percent of the map unit. In some areas of the map unit rock outcrops cover less than 1 percent of the surface.

Permeability is moderate or moderately rapid in the Rawsonville soil and moderately rapid in the Hogback soil. The available water capacity is high in the Rawsonville soil and moderate in the Hogback soil. Depth to bedrock is 20 to 40 inches in the Rawsonville soil and 10 to 20 inches in the Hogback soil. Potential frost action is high in both soils.

Almost all areas of these soils are wooded.

These soils are not suited to cultivated crops because of rock outcrops, shallowness to rock in the Hogback soil, and stones on the surface.

These soils are not suited to hay and poorly suited to pasture because of rock outcrops and stones on the surface. If these soils are used for unimproved pasture, periodic clipping and using rotational grazing help to maintain a good stand of pasture plants.

The potential productivity for sugar maple on these soils is moderate. The main concerns in woodland management are the erosion hazard, the equipment limitation, and the windthrow hazard. Laying out skid trails and logging roads across the slope and installing culverts and water bars as necessary help to control erosion. The soils are slippery when wet because of the high organic matter content in the surface layer and subsoil. Thus, in places the soils limit the use of logging equipment. On the Lyman soil, the rate of seedling mortality and the windthrow hazard are also concerns. Some seedling losses occur during dry periods in summer. Using special planting stock and, in places, special site preparations, such as bedding and furrowing before planting, help to reduce seedling losses. Windthrow is a hazard because root growth is limited by depth to bedrock. Selective cutting helps to reduce the windthrow hazard.

Depth to bedrock and slope are the main limitations to use these soils as sites for dwellings and septic tank absorption fields. Bedrock limits the ease of deep excavations. In places excavation is needed to prepare nearly level building sites. In places special construction, such as mounding the septic tank absorption field with a suitable fill material, is needed to raise the absorption field the required distance above bedrock.

These soils are in capability subclass VIs.

65D—Hogback-Rawsonville fine sandy loams, 15 to 25 percent slopes, very rocky. This map unit consists of moderately steep soils on the summits, shoulders, and back slopes of hills, ridges, and mountains. The shallow, well drained Hogback soil generally is on summits, and the moderately deep, well drained Rawsonville soil is on shoulders and back slopes. A typical area of this map unit is about 50 percent Hogback soil, 30 percent Rawsonville soil, and 10 to 20 percent other soils. Stones cover 0.1 to 3 percent of the surface, and rock outcrops cover 1 to 10 percent. The Hogback and Rawsonville soils are so intermingled that it was not practical to map them separately.

Typically, the surface layer of the Hogback soils is covered by a layer of forest litter 2 inches thick. The surface layer is dark reddish brown fine sandy loam 2 inches thick. The subsoil is dark reddish brown fine sandy loam 13 inches thick. Bedrock is at a depth of 15 inches.

Typically, the surface layer of the Rawsonville soil is covered by a layer of forest litter 3 inches thick. The surface layer is black fine sandy loam 1 inch thick. The subsoil is fine sandy loam 27 inches thick. In the upper part it is dark reddish brown, and in the lower part it is dark brown. Bedrock is at a depth of 28 inches.

Included with these soils in mapping are small areas of the well drained Londonderry soils on ridgetops, the well drained Houghtonville soils on upper side slopes, and the well drained and moderately well drained Mundal soils and the somewhat poorly drained Worden soils on back slopes and foot slopes. The included soils make up about 10 to 20 percent of the map unit. In some areas of the map unit rock outcrops cover less than 1 percent of the surface.

Permeability is moderate or moderately rapid in the Rawsonville soil and moderately rapid in the Hogback soil. The available water capacity is high in the Rawsonville soil and moderate in the Hogback soil. Depth to bedrock is 20 to 40 inches in the Rawsonville soil and 10 to 20 inches in the Hogback soil. Potential frost action is high in both soils.

Almost all areas of these soils are wooded.

These soils are not suited to cultivated crops because of rock outcrops, shallowness to rock in the Hogback soil, and stones on the surface.

These soils are not suited to hay and poorly suited to pasture because of rock outcrops and stones on the surface. If these soils are used for unimproved pasture, periodic clipping and using rotational grazing help to maintain a good stand of pasture plants.

The potential productivity for sugar maple on these soils is moderate. The main concerns in woodland management are the erosion hazard and the equipment limitation. Laying out skid trails and logging roads across the slope and installing culverts and water bars as necessary help to control erosion. Operating logging equipment across the slope reduces the equipment limitation caused by slope. These soils are slippery when wet because of the high organic matter content in the surface layer and subsoil. Thus, the soils limit the use of logging equipment. On the Hogback soil, the rate of seedling mortality and the windthrow hazard are also concerns. Some seedling losses occur during dry periods in summer. Using special planting stock and, in places, special site preparations, such as bedding and furrowing before planting, help to reduce seedling losses. Windthrow is a hazard because root growth is limited by depth to bedrock. Selective cutting helps to reduce the windthrow hazard.

Slope and depth to bedrock are the main limitations to use of these soils as sites for dwellings and septic tank absorption fields. In places extensive excavation is needed to prepare nearly level building sites. Bedrock limits the ease of deep excavation. In places special construction, such as mounding the septic tank absorption field with a suitable fill material, is needed to raise the absorption field the required distance above bedrock.

These soils are in capability subclass VIs.

65E—Hogback-Rawsonville fine sandy loams, 25 to 50 percent slopes, very rocky. This map unit consists of steep and very steep soils on the summits, shoulders, and back slopes of hills, ridges, and mountains. The shallow, well drained Hogback soil is generally on summits, and the moderately deep, well drained Rawsonville soil is on shoulders and back slopes. A typical area of this map unit is about 55 percent Hogback soil, 30 percent Rawsonville soil, and 5 to 15 percent other soils. Stones cover 0.1 to 3 percent of the surface, and rock outcrops cover 1 to 10 percent. The Hogback and Rawsonville soils are so intermingled that it was not practical to map them separately.

Typically, the surface layer of the Hogback soil is covered by a layer of forest litter 2 inches thick. The surface layer is dark reddish brown fine sandy loam 2 inches thick. The subsoil is dark reddish brown fine sandy loam 13 inches thick. Bedrock is at a depth of 15 inches.

Typically, the surface layer of this Rawsonville soil is covered by a layer of forest litter 3 inches thick. The surface layer is black fine sandy loam 1 inch thick. The subsoil is fine sandy loam 27 inches thick. In the upper part it is dark reddish brown, and in the lower part it is dark brown. Bedrock is at a depth of 28 inches.

Included with these soils in mapping are small areas of the well drained Londonderry soils on ridgetops, the well drained Houghtonville soils on upper side slopes, and the well drained and moderately well drained Mundal soils on back slopes and foot slopes. The included soils make up about 5 to 15 percent of the map unit. In some areas of the map unit rock outcrops cover less than 1 percent of the surface.

Permeability is moderate or moderately rapid in the Rawsonville soil and moderately rapid in the Hogback soil. The available water capacity is high in the Rawsonville soil and moderate in the Hogback soil. Depth to bedrock is 20 to 40 inches in the Rawsonville soil and 10 to 20 inches in the Hogback soil. Potential frost action is high in both soils.

Almost all areas of these soils are wooded.

These soils are not suited to cultivated crops, hay, or pasture because of slope and rock outcrops.

The potential productivity for sugar maple on these soils is moderate. The main concerns in woodland management are the erosion hazard and the equipment limitation. Laying out skid trails and logging roads across the slope and installing culverts and water bars as necessary helps to control erosion. Operating logging equipment across the slope reduces the equipment limitation caused by slope. The soils are slippery when wet because of the high organic matter content in the surface layer and subsoil. Thus, in places the soils limit the use of logging equipment. On the Hogback soil, the rate of seedling mortality and the windthrow hazard are also concerns. Some seedling losses occur during dry periods in summer. Using special planting stock and, in places, special site preparations, such as bedding and furrowing before planting, help to reduce seedling losses. Windthrow is a hazard because root growth is limited by depth to bedrock. Selective cutting helps to reduce the windthrow hazard.

These soils are not suited to use as sites for dwellings and septic tank absorption fields because of slope and depth to bedrock.

These soils are in capability subclass VIIs.

66B—Houghtonville-Rawsonville fine sandy loams, 3 to 8 percent slopes, rocky. This map unit consists of gently sloping soils on the summits, shoulders, and back slopes of hills, ridges, and mountains. The very deep, well drained Houghtonville soil is generally on back slopes and shoulders, and the moderately deep, well drained Rawsonville soils are on summits and shoulders (fig. 12). A typical area of this map unit is about 50 percent Houghtonville soil, 35 percent Rawsonville soil, and about 15 percent other soils. Rock outcrops cover about 1 percent of the surface. The Houghtonville and Rawsonville soils are so intermingled that it was not practical to map them separately.

Typically, the surface layer of the Houghtonville soil is very dark grayish brown fine sandy loam 8 inches thick. The subsoil is 24 inches thick. In the upper part it is dark brown fine sandy loam, in the middle part it is dark yellowish brown gravelly fine sandy loam, and in the lower part it is olive gravelly fine sandy loam. The substratum is dark olive gravelly fine sandy loam to a depth of 60 inches or more.

Typically, the surface layer of the Rawsonville soil is very dark grayish brown fine sandy loam 7 inches thick. The subsoil is fine sandy loam 21 inches thick. In the upper part it is dark reddish brown, and in the lower part it is dark brown. Bedrock is at a depth of 28 inches.

Included with these soils in mapping are small areas of the well drained Hogback soils on summits, the well drained and moderately well drained Mundal soils and the somewhat poorly drained Worden soils on back slopes and foot slopes, and the poorly drained Wilmington soils in depressions. The included soils make up 15 percent of the map unit. In some areas of the map unit rock outcrops cover 1 to 10 percent of the surface. In some map units boulders and stones cover as much as 3 percent of the surface.

Permeability is moderate or moderately rapid in the Houghtonville and Rawsonville soils. The available water capacity is high in both soils. Depth to bedrock is more than 60 inches in the Houghtonville soil and 20 to 40 inches in the Rawsonville soil. Potential frost action is high for both soils.

Most areas of these soils are farmed. A few areas are wooded.

These soils are poorly suited to cultivated crops. Erosion is a hazard, and the short growing season and areas of exposed bedrock are management concerns. Crop rotation, cover cropping, contour farming, and using conservation tillage help to control erosion. In places small areas of exposed bedrock interfere with tillage operations. Using conservation tillage helps to reduce this concern.

These soils are well suited to hay and pasture (fig. 13). Erosion is a hazard, and overgrazing and the short growing season are management concerns. Using stocking rates within grazing capacity and rotational grazing help to maintain a good stand of hay and pasture plants and to control erosion.

The potential productivity for sugar maple on these soils is moderate. The main concern in woodland management is the equipment limitation. These soils are slippery when wet because of the high organic matter content in the surface layer and subsoil. Thus, in places the soils limit the use of logging equipment. On the Rawsonville soil, windthrow is a hazard because root growth is limited by depth to bedrock. Selective cutting helps to reduce the windthrow hazard.

There are few limitations to the use of the Houghtonville soil as sites for dwellings and septic tank absorption fields. Depth to bedrock limits the use of the Rawsonville soil as sites for dwellings and septic tank absorption fields. Bedrock limits the ease of deep excavation. In places special construction, such as mounding the septic tank absorption field with a suitable fill material, is needed to raise the absorption field the required distance above bedrock.

These soils are in capability subclass IIe.

66C—Houghtonville-Rawsonville fine sandy loams, 8 to 15 percent slopes, rocky. This map unit consists

Figure 12.—An area of Houghtonville-Rawsonville *fine* sandy loams, 3 to 8 percent slopes, rocky, used for hay. The stones in the walls were removed from the soil surface.

of strongly sloping soils on the summits, shoulders, and back slopes on hills, ridges, and mountains. The very deep, well drained Houghtonville soil is generally on back slopes and shoulders, and the moderately deep, well drained Rawsonville soil is on summits and shoulders. A typical area of this map unit is about 50 percent Houghtonville soil, 35 percent Rawsonville soil, and about 15 percent other soils. Rock outcrops cover about 1 percent of the surface. The Houghtonville and Rawsonville soils are so intermingled that it was not practical to map them separately.

Typically, the surface layer of the Houghtonville soil is very dark grayish brown fine sandy loam 6 inches thick. The subsoil is 24 inches thick. In the upper part it is dark brown fine sandy loam, in the middle part it is dark yellowish brown gravelly fine sandy loam, and in the lower part it is olive gravelly fine sandy loam. The substratum is dark olive gravelly fine sandy loam to a depth of 60 inches or more.

Typically, the surface layer of the Rawsonville soil is very dark grayish brown fine sandy loam 6 inches thick. The subsoil is fine sandy loam 21 inches thick. In the upper part it is dark reddish brown, and in the lower part it is dark brown. Bedrock is at a depth of 28 inches.

Included with these soils in mapping are small areas of the well drained Hogback soil on summits, the well drained and moderately well drained Mundal soils and the somewhat poorly drained Worden soils on back slopes and foot slopes, and the poorly drained Wilmington soils in depressions. The included soils make

up 15 percent of the map unit. In some areas of the map unit rock outcrops cover 1 to 10 percent of the surface. In some map units boulders and stones cover as much as 3 percent of the surface.

Permeability is moderate or moderately rapid in the Houghtonville and Rawsonville soils. The available water capacity is high for both soils. Depth to bedrock is more than 60 inches in the Houghtonville soil and 20 to 40 inches in the Rawsonville soil. Potential frost action is high for both soils.

Most areas of these soils are farmed. A few areas are wooded.

These soils are poorly suited to cultivated crops. Erosion is a hazard, and the short growing season and areas of exposed bedrock are management concerns. Crop rotation, cover cropping, contour farming, and using conservation tillage help to control erosion. In places small areas of exposed bedrock interfere with tillage operations. Using conservation tillage help to reduce this concern.

These soils are well suited to hay and pasture. Erosion is a hazard, and overgrazing and the short growing season are management concerns. Using stocking rates within grazing capacity and rotational grazing help to maintain a good stand of hay and pasture plants and to control erosion.

The potential productivity for sugar maple on these soils is moderate. The main concerns in woodland management are the erosion hazard and the equipment limitation. Laying out skid trails and logging roads across the slope and installing culverts and water bars as necessary help to control erosion. These soils are slippery when wet because of the high organic matter content in the surface layer and subsoil. Thus, in places the soils limit the use of logging equipment. On the Rawsonville soil windthrow is a hazard because root growth is limited by depth to bedrock. Selective cutting helps to reduce the windthrow hazard.

Slope limits the use of these soils as sites for dwellings and septic tank absorption fields. In places excavation is needed to prepare nearly level sites for dwellings and septic tank absorption fields. Depth to bedrock also limits the use of the Rawsonville soil as

Figure 13.—An area of Houghtonville-Rawsonville fine sandy loams, 3 to 8 percent slopes, rocky, used for hay. Erosion is a hazard on these soils.

sites for dwellings and septic tank absorption fields. Bedrock limits the ease of deep excavation. In places special construction, such as mounding the septic tank absorption field with a suitable fill material, is needed to raise the absorption field the required distance above bedrock.

These soils are in capability subclass IIIe.

67B—Berkshire-Tunbridge fine sandy loams, 3 to 8 percent slopes, rocky. This map unit consists of gently sloping soils on the summits, shoulders, and back slopes of hills, ridges, and mountains. The very deep, well drained Berkshire soil generally is on back slopes and shoulders, and the moderately deep, well drained Tunbridge soil is on summits and shoulders. A typical area of the map unit is about 45 percent Berkshire soil, 40 percent Tunbridge soil, and 15 percent other soils. Rock outcrops cover about 1 percent of the surface. The Berkshire and Tunbridge soils are so intermingled that it was not practical to map them separately.

Typically, the surface layer of the Berkshire soil is dark brown fine sandy loam 8 inches thick. The subsoil is fine sandy loam 15 inches thick. In the upper part it is dark yellowish brown, and in the lower part it is olive brown. The substratum is olive gravelly fine sandy loam to a depth of 60 inches or more.

Typically, the surface layer of this Tunbridge soil is dark brown fine sandy loam 8 inches thick. The subsoil is dark brown fine sandy loam 19 inches thick. Bedrock is at a depth of 27 inches.

Included with these soils in mapping are small areas of the somewhat excessively drained Lyman soils on summits, the well drained Marlow and Monadnock soils on back slopes and shoulders, and the somewhat poorly drained Westbury soils on foot slopes, toe slopes, and in depressions. The included soils make up about 15 percent of the map unit. In some areas of the map unit rock outcrops cover 1 to 10 percent of the surface, stones cover as much as 3 percent of the surface, or depth to bedrock ranges from 40 to 60 inches.

Permeability is moderate or moderately rapid in the Berkshire and Tunbridge soils. The available water capacity is high in the Berkshire soil and moderate in the Tunbridge soil. Depth to bedrock is more than 60 inches in the Berkshire soil and 20 to 40 inches in the Tunbridge soil. Potential frost action is moderate for both soils.

Most areas of these soils are farmed. Some areas are wooded.

These soils are well suited to cultivated crops. Erosion is a hazard, and exposed bedrock is a management concern. Crop rotation, cover cropping, contour farming, and using conservation tillage help to control erosion. In places small areas of exposed bedrock interfere with tillage operations. Using conservation tillage helps to reduce this concern.

These soils are well suited to hay and pasture. Erosion is a hazard, and overgrazing is a management concern. Using stocking rates within grazing capacity and rotational grazing help to maintain a good stand of hay and pasture plants and to control erosion.

The potential productivity for eastern white pine is very high on the Berkshire soil, and that for sugar maple on the Tunbridge soil is moderate. There are few concerns in woodland management. On the Tunbridge soil, windthrow is a hazard because root growth is limited by depth to bedrock. Selective cutting helps to reduce the windthrow hazard.

There are few limitations to use of the Berkshire soil as sites for dwellings and septic tank absorption fields. Depth to bedrock limits the use of the Tunbridge soils as sites for dwellings and septic tank absorption fields. Bedrock limits the ease of deep excavation. In places special construction, such as mounding the septic tank absorption field with a suitable fill material, is needed to raise the absorption field the required distance above bedrock.

These soils are in capability subclass IIs.

67C—Berkshire-Tunbridge fine sandy loams, 8 to 15 percent slopes, rocky. This map unit consists of strongly sloping soils on the summits, shoulders, and back slopes of hills, ridges, and mountains. The very deep, well drained Berkshire soil is generally on back slopes and shoulders, and the moderately deep, well drained Tunbridge soil is on summits and shoulders. A typical area of the map unit is about 45 percent Berkshire soil, 35 percent Tunbridge soil, and about 20 percent other soils. Rock outcrops cover about 1 percent of the surface. The Berkshire and Tunbridge soils are so intermingled that it was not practical to map them separately.

Typically, the surface layer of this Berkshire soil is dark brown fine sandy loam 7 inches thick. The subsoil is fine sandy loam 15 inches thick. In the upper part it is dark yellowish brown, and in the lower part it is olive brown. The substratum is olive gravelly fine sandy loam to a depth of 60 inches or more.

Typically, the surface layer of this Tunbridge soil is dark brown fine sandy loam 7 inches thick. The subsoil is dark brown fine sandy loam 19 inches thick. Bedrock is at a depth of 27 inches.

Included with these soils in mapping are small areas of the somewhat excessively drained Lyman soils on summits, the well drained Marlow and Monadnock soils on back slopes and shoulders, and the somewhat poorly drained Westbury soils on foot slopes, on toe slopes, and in depressions. The included soils make up about 20 percent of the map unit. In some areas of the map unit rock outcrops cover 1 to 10 percent of the surface, stones cover as much as 3 percent of the surface, or depth to bedrock ranges from 40 to 60 inches.

Permeability is moderate or moderately rapid in the Berkshire and Tunbridge soils. The available water capacity is high in the Berkshire soil and moderate in the Tunbridge soil. Depth to bedrock is more than 60 inches in the Berkshire soil and 20 to 40 inches in the Tunbridge soil. Potential frost action is moderate for both soils.

Most areas of these soils are farmed. Some areas are wooded.

These soils are suited to cultivated crops. Erosion is a hazard, and areas of exposed bedrock are management concerns. Crop rotation, cover cropping, contour farming, and using conservation tillage help to control erosion. In places small areas of exposed bedrock interfere with tillage operations. Using conservation tillage helps to reduce this concern.

These soils are well suited to hay and pasture. Erosion is a hazard, and overgrazing is a management concern. Using stocking rates within grazing capacity and rotational grazing help to maintain a good stand of hay and pasture plants and to control erosion.

The potential productivity for eastern white pine on the Berkshire soil is very high, and that for sugar maple on the Tunbridge soil is moderate. There are few concerns in woodland management. On the Tunbridge soil, windthrow is a hazard because root growth is limited by depth to bedrock. Selective cutting helps to reduce the windthrow hazard.

Slope limits the use of these soils as sites for dwellings and septic tank absorption fields. In places excavation is needed to prepare nearly level areas for dwellings and septic tank absorption fields. Depth to bedrock also limits the use of the Tunbridge soil as sites for dwellings and septic tank absorption fields. Bedrock limits the ease of deep excavation. Special construction, such as mounding the septic tank absorption field with a suitable fill material, is needed to raise the absorption field the required distance above bedrock.

These soils are in capability subclass IIIe.

68D—Taconic-Hubbardton-Rock outcrop complex, 8 to 25 percent slopes. This map unit consists of strongly sloping and moderately steep soils on the tops and sides of hills, ridges, and mountains. The shallow, somewhat excessively drained Taconic soil is on back slopes and the very shallow, excessively drained Hubbardton soil and areas of rock outcrop are on shoulders and summits. Stones cover 0.1 to 3 percent of the surface. A typical area of the map unit is about 50 percent Taconic soil, 20 percent Hubbardton soil, 20 percent rock outcrops, and 10 percent other soils. The Taconic and Hubbardton soils and areas of Rock outcrop are so intermingled that it was not practical to map them separately.

Typically, the surface layer of the Taconic soil is covered by a layer of forest litter 2 inches thick. The surface layer is very dark brown channery loam 2 inches thick. The subsoil is 17 inches thick. In the upper part it is dark yellowish brown channery loam, in the middle part it is dark brown very channery loam, and in the lower part it is olive brown very channery loam. Bedrock is at a depth of 19 inches. In some map units the surface layer and subsoil are fine sandy loam.

Typically, the surface of the Hubbardton soil is covered by a layer of forest litter 2 inches thick. The surface layer is black very channery silt loam 2 inches thick. The subsoil is dark reddish brown very channery silt loam 4 inches thick. Bedrock is at a depth of 6 inches.

Rock outcrop consists of exposures of bare bedrock.

Included with these soils in mapping are small areas of the well drained Dummerston and Macomber soils on back slopes, the moderately well drained Fullam soils on back slopes and foot slopes, and the poorly drained Brayton soils in depressions. The included soils make up about 10 percent of the map unit.

Permeability is moderate or moderately rapid in the Taconic and Hubbardton soils. The available water capacity is very low in both soils. Depth to bedrock is 10 to 20 inches in the Taconic soil and 2 to 10 inches in the Hubbardton soil. Potential frost action is moderate for both soils.

Almost all areas of these soils are wooded.

These soils are not suited to cultivated crops, hay, or pasture because of areas of exposed bedrock, depth to bedrock, and the stones on the surface.

The potential productivity for sugar maple is moderate on the Taconic soil and moderately high on the Hubbardton soil. The main concerns in woodland management are the erosion hazard, the equipment limitation, the windthrow hazard, and the rate of seedling mortality. Laying out skid trails and logging roads across the slope and installing culverts and water bars as necessary help to control erosion. Operating logging equipment across the slope reduces the equipment limitation. In places areas of exposed bedrock interfere with logging operations. Windthrow is a hazard because root growth is limited by depth to bedrock. Selective cutting helps to reduce the windthrow hazard. Some seedling losses occur during dry periods in summer. Using special planting stock and special site preparations help to reduce seedling losses.

Depth to bedrock and slope are the main limitations to use of these soils as sites for dwellings and septic tank absorption fields. Bedrock limits the ease of deep excavation. In places extensive excavation is needed to prepare nearly level sites for dwellings and septic tank absorption fields. In places special construction, such as mounding the septic tank absorption field with a suitable fill material, is needed to raise the absorption field the required distance above bedrock.

These soils are in capability subclass VIIs.

68E—Taconic-Hubbardton-Rock outcrop complex, 25 to 70 percent slopes. This map unit consists of steep and very steep soils on the tops and sides of hills, ridges, and mountains. The shallow, somewhat excessively drained Taconic soil is on back slopes, and the very shallow, excessively drained Hubbardton soil and areas of rock outcrop are on shoulders and summits. Stones cover 0.1 to 3 percent of the surface. A typical area of the map unit is about 50 percent Taconic soil, 20 percent Hubbardton soil, 15 percent Rock outcrops, and 15 percent other soils. The Taconic and Hubbardton soils and areas of Rock outcrop are so intermingled that it was not practical to map them separately.

Typically, the surface layer of the Taconic soil is covered by a layer of forest litter 2 inches thick. The surface layer is very dark brown channery loam 2 inches thick. The subsoil is 17 inches thick. In the upper part it is dark yellowish brown channery loam, in the middle part it is dark brown very channery loam, and in the lower part it is olive brown very channery loam. Bedrock is at a depth of 19 inches. In some map units the surface layer and subsoil are fine sandy loam.

Typically, the surface layer of the Hubbardton soil is covered by a layer of forest litter 2 inches thick. The surface layer is black very channery silt loam 2 inches thick. The subsoil is dark reddish brown very channery silt loam 4 inches thick. Bedrock is at a depth of 6 inches.

Rock outcrop consists of exposures of bare bedrock.

Included with these soils in mapping are small areas of the well drained Dummerston and Macomber soils on back slopes, the moderately well drained Fullam soils on back slopes and foot slopes, and the poorly drained Brayton soils in depressions. The included soils make up about 15 percent of the map unit.

Permeability is moderate or moderately rapid in the Taconic and Hubbardton soils. The available water capacity is very low in both soils. Depth to bedrock is 10 to 20 inches in the Taconic soil and 2 to 10 inches in the Hubbardton soil. Potential frost action is moderate for both soils.

Almost all areas of these soils are wooded.

These soils are not suited to cultivated crops, hay, or pasture because of slope, areas of exposed bedrock, depth to bedrock, and stones on the surface.

The potential productivity for sugar maple is moderate on the Taconic soil and low on the Hubbardton soil. The main concerns in woodland management are the erosion hazard, the equipment limitation, the windthrow hazard, and the rate of seedling mortality. Laying out skid trails and logging roads across the slope and installing culverts and water bars as necessary help to control erosion. Operating logging equipment across the slope reduces the equipment limitation. In places areas of exposed bedrock interfere with logging operations. Windthrow is a hazard because root growth is limited by depth to bedrock. Selective cutting helps to reduce the windthrow hazard. Some seedling losses occur during dry periods in summer. Using special planting stock and special site preparations help to reduce seedling losses.

These soils are not suited to use as sites for dwellings and septic tank absorption fields because of slope and depth to bedrock.

These soils are in capability subclass VIIs.

69C—Macomber-Taconic complex, 8 to 15 percent slopes, very rocky. This map unit consists of strongly sloping soils on the tops and sides of hills, ridges, and mountains. The moderately deep, well drained Macomber soil is on back slopes and shoulders, and the shallow, somewhat excessively drained Taconic soil is on summits. A typical area of the map unit is about 50 percent Macomber soil, 30 percent Taconic soil, and 10 to 20 percent other soils. Stones cover 0.1 to 3 percent of the surface, and Rock outcrops cover 1 to 10 percent. The Macomber and Taconic soils are so intermingled that it was not practical to map them separately.

Typically, the surface layer of the Macomber soil is covered by a layer of forest litter 2 inches thick. The surface layer is very dark grayish brown channery silt loam 2 inches thick. The subsoil is 14 inches thick. In the upper part it is dark yellowish brown channery silt loam, and in the lower part it is light olive brown very channery loam. The substratum is dark grayish brown very channery silt loam 18 inches thick. Bedrock is at a depth of 34 inches.

Typically, the surface layer of the Taconic soil is covered by a layer of forest litter 2 inches thick. The surface layer is very dark brown channery loam 2 inches thick. The subsoil is 17 inches thick. In the upper part it is dark yellowish brown channery loam, in the middle part it is dark brown very channery loam, and in the lower part it is olive brown very channery loam. Bedrock is at a depth of 19 inches.

Included with these soils in mapping are small areas of the excessively drained Hubbardton soils on hilltops and ridgetops, the well drained Dummerston soils on back slopes, and the moderately well drained Fullam soils and the poorly drained Brayton soils in depressions. The included soils make up about 20 percent of this map unit.

Permeability is moderate in the Macomber soil and moderate or moderately rapid in the Taconic soil. The available water capacity is moderate in the Macomber soil and very low in the Taconic soil. Depth to bedrock is 20 to 40 inches in the Macomber soil and 10 to 20 inches in the Taconic soil. Potential frost action is moderate for both soils.

Most areas of these soils are wooded. A few areas are farmed.

These soils are not suited to cultivated crops because of rock outcrops, shallowness to rock in the Taconic soil, and stones on the surface.

These soils are not suited to hay and poorly suited to pasture because of rock outcrops and stones on the surface (fig. 14). If these soils are used for unimproved pasture, periodic clipping and using rotational grazing help to maintain a good stand of pasture plants.

The potential productivity for sugar maple on these soils is moderate. On the Macomber soil, there are few concerns in woodland management. On the Taconic soil, the rate of seedling mortality and the windthrow hazard are concerns. Some seedling losses occur during dry periods in summer. Using special planting stock and, in places, special site preparations, such as bedding and furrowing before planting, helps to reduce the rate of seedling mortality. Windthrow is a hazard because root growth is limited by depth to bedrock. Selective cutting helps to reduce the windthrow hazard.

Depth to bedrock and slope are the main limitations to use of these soils as sites for dwellings and septic tank absorption fields. Bedrock limits ease of deep excavation. In places limited excavation is needed to prepare nearly level building sites. In places special construction, such as mounding the septic tank absorption field with a suitable fill material, is needed to raise the absorption field the required distance above bedrock.

These soils are in capability subclass VIs.

69D—Macomber-Taconic complex, 15 to 25 percent slopes, very rocky. This map unit consists of moderately steep soils on the tops and sides of hills, ridges, and mountains. The moderately deep, well drained Macomber soil is on back slopes and shoulders, and the shallow, somewhat excessively drained Taconic soil is on summits. A typical area of the map unit is about 45 percent Macomber soil, 35 percent Taconic soil, and 10 to 20 percent other soils. Stones cover 0.1 to 3 percent of the surface, and Rock outcrops cover 1 to 10 percent. The Macomber and Taconic soils are so intermingled that it was not practical to map them separately.

Typically, the surface layer of the Macomber soil is covered by a layer of forest litter 2 inches thick. The

Figure 14.—In the foreground, an area of Fullam silt loam, 3 to 8 percent slopes, and in the background, an area of Macomber-Taconic complex, 8 to 15 percent slopes, very rocky. These soils are used for pasture.

surface layer is very dark grayish brown channery silt loam 2 inches thick. The subsoil is 14 inches thick. In the upper part it is dark yellowish brown channery silt loam, and in the lower part it is light olive brown very channery loam. The substratum is dark grayish brown very channery silt loam 18 inches thick. Bedrock is at a depth of 34 inches.

Typically, the surface layer of the Taconic soil is covered by a layer of forest litter 2 inches thick. The surface layer is very dark brown channery loam 2 inches thick. The subsoil is 17 inches thick. In the upper part it is dark yellowish brown channery loam, in the middle part it is dark brown very channery loam, and in the lower part it is olive brown very channery loam. Bedrock is at a depth of 19 inches.

Included with these soils in mapping are small areas of the excessively drained Hubbardton soils on hilltops and ridgetops, the well drained Dummerston soils on back slopes, and the moderately well drained Fullam soils in depressions. The included soils make up about 20 percent of this map unit.

Permeability is moderate in the Macomber soil and moderate or moderately rapid in the Taconic soil. The available water capacity is moderate in the Macomber soil and very low in the Taconic soil. Depth to bedrock is 20 to 40 inches in the Macomber soil and 10 to 20 inches in the Taconic soil. Potential frost action is moderate for both soils.

Most areas of these soils are wooded. A few areas are farmed.

These soils are not suited to cultivated crops. Rock outcrops, shallowness to rock in the Taconic soil, and stones on the surface are the main limitations.

These soils are not suited to hay and poorly suited to pasture because of rock outcrops and stones on the surface. If these soils are used for unimproved pasture, periodic clipping and using rotational grazing help to maintain a good stand of pasture plants.

The potential productivity for sugar maple on these soils is moderate. The main concerns in woodland management are the erosion hazard and the equipment limitation. Laying out skid trails and logging roads across the slope and installing culverts and water bars as necessary help to control erosion. Operating logging equipment across the slope reduces the equipment limitation. On the Taconic soil, the rate of seedling mortality and the windthrow hazard are also concerns. Some seedling losses occur during dry periods in summer. Using special planting stock and, in places, special site preparations, such as bedding and furrowing before planting, helps to reduce seedling losses. Windthrow is a hazard because root growth is limited by depth to bedrock. Selective cutting helps to reduce the windthrow hazard.

Depth to bedrock and slope are the main limitations to use of these soils as sites for dwellings and septic tank absorption fields. Bedrock limits the ease of deep excavation. In places extensive excavation is needed to prepare nearly level building sites. In places special construction, such as mounding the septic tank absorption field with a suitable fill material, is needed to raise the absorption field the required distance above bedrock.

These soils are in capability subclass VIs.

69E—Macomber-Taconic complex, 25 to 70 percent slopes, very rocky. This map unit consists of steep and very steep soils on the tops and sides of hills, ridges, and mountains. The moderately deep, well drained Macomber soil is on back slopes and shoulders, and the shallow, somewhat excessively drained Taconic soil is on summits. A typical area of the map unit is about 55 percent Macomber soil, 25 percent Taconic soil, and 10 to 20 percent other soils. Stones cover 0.1 to 3 percent of the surface, and rock outcrops cover 1 to 10 percent. The Macomber and Taconic soils are so intermingled that it was not practical to map them separately.

Typically, the surface layer of the Macomber soil is covered by a layer of forest litter 2 inches thick. The surface layer is very dark grayish brown channery silt loam 2 inches thick. The subsoil is 14 inches thick. In the upper part it is dark yellowish brown channery silt loam, and in the lower part it is light olive brown very channery loam. The substratum is dark grayish brown very channery silt loam 18 inches thick. Bedrock is at a depth of 34 inches.

Typically, the surface layer of the Taconic soil is covered by a layer of forest litter 2 inches thick. The surface layer is very dark brown channery loam 2 inches thick. The subsoil is 17 inches thick. In the upper part it is dark yellowish brown channery loam, in the middle part it is dark brown very channery loam, and in the lower part it is olive brown very channery loam. Bedrock is at a depth of 19 inches.

Included with these soils in mapping are small areas of the excessively drained Hubbardton soils on hilltops and ridgetops and the well drained Dummerston soils on back slopes. The included soils make up about 20 percent of the complex.

Permeability is moderate in the Macomber soil and moderate or moderately rapid in the Taconic soil. The available water capacity is moderate in the Macomber soil and very low in the Taconic soil. Depth to bedrock is 20 to 40 inches in the Macomber soil and 10 to 20 inches in the Taconic soil. Potential frost action is moderate for both soils.

Most areas of these soils are wooded.

These soils are not suited to cultivated crops, hay, or pasture because of slope, rock outcrops, and stones on the surface.

The potential productivity for sugar maple on these soils is moderate. The main concerns in woodland management are the erosion hazard and the equipment

limitation. Laying out skid trails and logging roads across the slope and installing culverts and water bars as necessary help to control erosion. Operating logging equipment across the slope reduces the equipment limitation. On the Taconic soil, the rate of seedling mortality and the windthrow hazard are also concerns. Some seedling losses occur during dry periods in summer. Using special planting stock and, in places, special site preparations, such as bedding and furrowing before planting, help to reduce seedling losses. Windthrow is a hazard because root growth is limited by depth to bedrock. Selective cutting helps to reduce the windthrow hazard.

These soils are not suited to dwellings and septic tank absorption fields because of slope and depth to bedrock.

These soils are in capability subclass VIIs.

70C—Dummerston-Macomber complex, 8 to 15 percent slopes, very stony. This map unit consists of strongly sloping soils on the tops and sides of hills, ridges, and mountains. The very deep, well drained Dummerston soil is generally on back slopes and shoulders, and the moderately deep, well drained Macomber soil is on summits. A typical area of the map unit is about 60 percent Dummerston soils, 25 percent Macomber soil, and 15 percent other soils. Stones cover 0.1 to 3 percent of the surface. The Dummerston and Macomber soils are so intermingled that it was not practical to map them separately.

Typically, the surface layer of the Dummerston soil is covered by a layer of forest litter 3 inches thick. The surface layer is very dark grayish brown silt loam 3 inches thick. The subsoil is channery silt loam 27 inches thick. In the upper part it is dark yellowish brown, in the middle part it is yellowish brown, and in the lower part it is olive. The substratum is dark olive gray channery loam to a depth of 60 inches or more.

Typically, the surface layer of the Macomber soil is covered by a layer of forest litter 2 inches thick. The surface layer is very dark grayish brown channery silt loam 2 inches thick. The subsoil is 14 inches thick. In the upper part it is dark yellowish brown channery silt loam, and in the lower part it is light olive brown very channery loam. The substratum is dark grayish brown very channery silt loam 18 inches thick. Bedrock is at a depth of 34 inches.

Included with these soils in mapping are small areas of the excessively drained Hubbardton soils and the somewhat excessively drained Taconic soils on the tops of ridges, the moderately well drained Fullam soils on foot slopes, and the poorly drained Brayton soils in depressions. In some map units exposed bedrock covers up to 1 percent of the surface. In some areas of the map unit stones cover less than 0.1 percent of the surface. Also included are areas on upper side slopes where bedrock is at a depth of 40 to 60 inches. The included soils make up about 15 percent of the map unit.

Permeability is moderate in the Dummerston and Macomber soils. The available water capacity is high in the Dummerston soil and moderate in the Macomber soil. Depth to bedrock is more than 60 inches in the Dummerston soil and 20 to 40 inches in the Macomber soil. Potential frost action is moderate for both soils.

Most areas of these soils are wooded. A few areas are farmed.

These soils are not suited to cultivated crops because of stones on the surface.

These soils are not suited to hay and poorly suited to pasture because of stones on the surface. If these soils are used for unimproved pasture, periodic clipping and using rotational grazing help to maintain a good stand of pasture plants.

The potential productivity for sugar maple on these soils is moderate. There are few concerns in woodland management.

Slope limits the use of these soils as sites for dwellings and septic tank absorption fields. In places excavation is needed to prepare nearly level sites for dwellings and septic tank absorption fields. Depth to bedrock also limits the use of the Macomber soil as sites for dwellings and septic tank absorption fields. Bedrock limits the ease of deep excavation. Special construction, such as mounding the septic tank absorption field with a suitable fill material, is needed to raise the absorption field the required distance above bedrock.

These soils are in capability subclass VIs.

70D—Dummerston-Macomber complex, 15 to 25 percent slopes, very stony. This map unit consists of moderately steep soils on the tops and sides of hills, ridges, and mountains. The very deep, well drained Dummerston soil is generally on back slopes and shoulders, and the moderately deep, well drained Macomber soil is on summits. Stones cover 0.1 to 3 percent of the surface. A typical area of the map unit is about 50 percent Dummerston soil, 35 percent Macomber soil, and 15 percent other soils. The Dummerston and Macomber soils are so intermingled that it was not practical to map them separately.

Typically, the surface layer of the Dummerston soil is covered by a layer of forest litter 3 inches thick. The surface layer is very dark grayish brown silt loam 3 inches thick. The subsoil is channery silt loam 27 inches thick. In the upper part it is dark yellowish brown, in the middle part it is yellowish brown, and in the lower part it is olive. The substratum is dark olive gray channery loam to a depth of 60 inches or more.

Typically, the surface layer of the Macomber soil is covered by a layer of forest litter 2 inches thick. The surface layer is very dark grayish brown channery silt loam 2 inches thick. The subsoil is 14 inches thick. In the upper part it is dark yellowish brown channery silt loam, and in the lower part it is light olive brown very channery loam. The substratum is dark grayish brown

very channery silt loam 18 inches thick. Bedrock is at a depth of 34 inches.

Included with these soils in mapping are small areas of the excessively drained Hubbardton soils and the somewhat excessively drained Taconic soils on the tops of ridges and the moderately well drained Fullam soils on foot slopes. In some map units exposed bedrock covers up to 1 percent of the surface. In some areas of the map unit stones cover less than 0.1 percent of the surface. Also included are areas on upper side slopes where bedrock is at a depth of 40 to 60 inches. The included soils make up about 15 percent of the unit.

Permeability is moderate in the Dummerston and Macomber soils. The available water capacity is high in the Dummerston soil and moderate in the Macomber soil. Depth to bedrock is more than 60 inches in the Dummerston soil and 20 to 40 inches in the Macomber soil. Potential frost action is moderate for both soils.

Most areas of these soils are wooded. A few areas are farmed.

These soils are not suited to cultivated crops because of stones on the surface.

These soils are not suited to hay and poorly suited to pasture because of stones on the surface. If these soils are used for unimproved pasture, periodic clipping and using rotational grazing help to maintain a good stand of pasture plants.

The potential productivity for sugar maple on these soils is moderate. The main concerns in woodland management are the erosion hazard and the equipment limitation. Laying out skid trails and logging roads across the slope and installing culverts and water bars as necessary help to control erosion. Operating logging equipment across the slope reduces the equipment limitation.

Slope limits the use of these soils as sites for dwellings and septic tank absorption fields. In places extensive excavation is needed to prepare nearly level areas for dwellings and septic tank absorption fields. Depth to bedrock also limits the use of the Macomber soil as sites for dwellings and septic tank absorption fields. Bedrock limits the ease of deep excavation. In places special construction, such as mounding the septic tank absorption field with a suitable fill material, is needed to raise the absorption field the required distance above bedrock.

These soils are in capability subclass VIs.

70E—Dummerston-Macomber complex, 25 to 70 percent slopes, very stony. This map unit consists of steep and very steep soils on the tops and sides of hills, ridges, and mountains. The very deep, well drained Dummerston soil is generally on back slopes and shoulders, and the moderately deep, well drained Macomber soil is on summits. A typical area of the map unit is about 45 percent Dummerston soil, 35 percent Macomber soil, and 20 percent other soils. Stones cover 0.1 to 3 percent of the surface. The Dummerston and Macomber soils are so intermingled that it was not practical to map them separately.

Typically, the surface layer of the Dummerston soil is covered by a layer of forest litter 3 inches thick. The surface layer is very dark grayish brown silt loam 3 inches thick. The subsoil is channery silt loam 27 inches thick. In the upper part it is dark yellowish brown, in the middle part it is yellowish brown, and in the lower part it is olive. The substratum is dark olive gray channery loam to a depth of 60 inches or more.

Typically, the surface layer of the Macomber soil is covered by a layer of forest litter 2 inches thick. The surface layer is very dark grayish brown channery silt loam 2 inches thick. The subsoil is 14 inches thick. In the upper part it is dark yellowish brown channery silt loam, and in the lower part it is light olive brown very channery loam. The substratum is dark grayish brown very channery silt loam 18 inches thick. Bedrock is at a depth of 34 inches.

Included with these soils in mapping are small areas of the excessively drained Hubbardton soils and the somewhat excessively drained Taconic soils on ridgetops and the moderately well drained Fullam soils on foot slopes. In some map units exposed bedrock covers as much as 1 percent of the surface. In some areas of the map unit stones cover less than 0.1 percent of the surface. Also included are areas on upper side slopes where bedrock is at a depth of 40 to 60 inches. The included soils make up about 20 percent of the map unit.

Permeability is moderate in the Dummerston and Macomber soils. The available water capacity is high in the Dummerston soil and moderate in the Macomber soil. Depth to bedrock is more than 60 inches in the Dummerston soil and 20 to 40 inches in the Macomber soil. Potential frost action is moderate for both soils.

Most areas of these soils are wooded.

These soils are not suited to cultivated crops, hay, or pasture because of slope and stones on the surface.

The potential productivity for sugar maple on these soils is moderate. The main concerns in woodland management are the erosion hazard and the equipment limitation. Laying out skid trails and logging roads across the slope and installing culverts and water bars as necessary help to control erosion. Operating logging equipment across the slope reduces the equipment limitation.

These soils are not suited to use as sites for dwellings and septic tank absorption fields because of depth to bedrock in the Macomber soil and slope.

These soils are in capability subclass VIIs.

71B—Dummerston silt loam, 3 to 8 percent slopes. This is a very deep, gently sloping, well drained soil on the tops and sides of hills and ridges.

Typically, the surface layer is dark brown silt loam 9 inches thick. The subsoil is channery silt loam 21 inches thick. In the upper part it is yellowish brown, and in the lower part it is olive. The substratum is dark olive gray channery loam to a depth of 60 inches or more.

Included with this soil in mapping are small areas of the somewhat excessively drained Taconic soils and the well drained Macomber soils on the tops of hills and ridges, the moderately well drained Fullam soils on lower side slopes, and the poorly drained Brayton soils in depressions. The included soils make up about 15 percent of the map unit. In some map units stones cover as much as 3 percent of the surface.

Permeability in this Dummerston soil is moderate. The available water capacity is high. Depth to bedrock is more than 60 inches. Potential frost action is moderate.

Most areas of this soil are farmed. Some areas are wooded.

This soil is well suited to cultivated crops. Erosion is a hazard. Crop rotation, cover cropping, contour farming, and using conservation tillage help to control erosion. Installing diversion ditches to divert surface runoff also helps to control erosion.

This soil is well suited to hay and pasture. Erosion is a hazard. Use of this soil for hay or pasture is effective in controlling erosion. Using stocking rates within grazing capacity and rotational grazing help to maintain a good stand of hay and pasture plants and to control erosion.

The potential productivity for sugar maple on this soil is moderate. There are few concerns in woodland management.

There are few limitations to use of this soil as sites for dwellings and septic tank absorption fields.

This soil is in capability subclass IIe.

71C—Dummerston silt loam, 8 to 15 percent slopes. This is a very deep, strongly sloping, well drained soil on the tops and sides of hills and ridges.

Typically, the surface layer is dark brown silt loam 8 inches thick. The subsoil is channery silt loam 21 inches thick. In the upper part it is yellowish brown, and in the lower part it is olive. The substratum is dark olive gray channery loam to a depth of 60 inches or more.

Included with this soil in mapping are small areas of the somewhat excessively drained Taconic soils and the well drained Macomber soils on hilltops and ridgetops, the moderately well drained Fullam soils on lower side slopes, and the poorly drained Brayton soils in depressions. The included soils make up about 15 percent of the map unit. In some map units stones cover as much as 3 percent of the surface.

Permeability in this Dummerston soil is moderate. The available water capacity is high. Depth to bedrock is more than 60 inches. Potential frost action is moderate.

Most areas of this soil are farmed. Some areas are wooded.

This soil is suited to cultivated crops. Erosion is a hazard. Crop rotation, cover cropping, contour farming, and using conservation tillage help to control erosion. Installing diversion ditches to divert surface runoff also helps to control erosion.

This soil is well suited to hay and pasture. Erosion is a hazard, and overgrazing is a management concern. Use of this soil for hay or pasture is effective in controlling erosion. Using stocking rates within grazing capacity and rotational grazing help to maintain a good stand of hay and pasture plants and to control erosion.

The potential productivity for sugar maple on this soil is moderate. There are few concerns in woodland management.

Slope is the main limitation to use of this soil as sites for dwellings and septic tank absorption fields. In places excavation and land grading are needed to prepare nearly level sites for dwellings and septic tank absorption fields.

This soil is in capability subclass IIIe.

71D—Dummerston silt loam, 15 to 25 percent slopes. This is a very deep, moderately steep, well drained soil on hilltops and ridgetops.

Typically, the surface layer soil is dark brown silt loam 7 inches thick. The subsoil is channery silt loam 21 inches thick. In the upper part it is yellowish brown, and in the lower part it is olive. The substratum is dark olive gray channery loam to a depth of 60 inches or more.

Included with this soil in mapping are small areas of the somewhat excessively drained Taconic soils, the well drained Macomber soils on hilltops and ridgetops, and the moderately well drained Fullam soils on lower side slopes. The included soils make up about 15 percent of this map unit. In some map units stones cover as much as 3 percent of the surface.

Permeability in this Dummerston soil is moderate. The available water capacity is high. Depth to bedrock is more than 60 inches. Potential frost action is moderate.

Most areas of this soil are farmed. Some areas are wooded.

This soil is poorly suited to cultivated crops. Erosion is a hazard, and the equipment limitation is a management concern. Crop rotation, cover cropping, contour farming, and using conservation tillage help to control erosion. Contour farming helps to overcome the equipment limitation.

This soil is suited to hay and pasture. Erosion is a hazard, and overgrazing and the equipment limitation are management concerns. Use of this soil for long term hay or pasture is effective in controlling erosion. Using stocking rates within grazing capacity and rotational grazing help to maintain a good stand of hay and pasture plants and to control erosion. Seeding, fertilizing, and harvesting hay on the contour help to overcome the equipment limitation.

The potential productivity for sugar maple on this soil is moderate. The main concerns in woodland management are the erosion hazard and the equipment limitation. Laying out skid trails and logging roads across the slope and installing culverts and water bars as necessary help to control erosion. Operating logging equipment across the slope reduces the equipment limitation.

Slope is the main limitation to use of this soil as sites for dwellings and septic tank absorption fields. Extensive excavation and land grading are needed to prepare nearly level building sites. Special slope design is needed for septic tank absorption fields.

This soil is in capability subclass IVe.

72C—Dummerston silt loam, 8 to 15 percent slopes, very stony. This is a very deep, strongly sloping, well drained soil on hilltops and ridgetops. Stones cover 0.1 to 3 percent of the surface.

Typically, the surface layer is covered by a layer of forest litter 3 inches thick. The surface layer is very dark grayish brown silt loam 3 inches thick. The subsoil is channery silt loam 27 inches thick. In the upper part it is dark yellowish brown, in the middle part it is yellowish brown, and in the lower part it is olive. The substratum is dark olive gray channery loam to a depth of 60 inches or more.

Included with this soil in mapping are small areas of the somewhat excessively drained Taconic soils and the well drained Macomber soils on hilltops and ridgetops, the moderately well drained Fullam soils on lower side slopes, and the poorly drained Brayton soil in depressions. In some map units stones cover less than 0.1 percent of the surface or exposed bedrock covers about 1 percent of the surface. The included soils make up about 15 percent of the map unit.

Permeability in this Dummerston soil is moderate. The available water capacity is high. Depth to bedrock is more than 60 inches. Potential frost action is moderate.

Most areas of this soil are wooded. A few areas are farmed.

This soil is not suited to cultivated crops because of stones on the surface.

This soil is not suited to hay and poorly suited to pasture because of stones on the surface. If this soil is used for unimproved pasture, periodic clipping and using rotational grazing help to maintain a good stand of pasture plants.

The potential productivity for sugar maple on this soil is moderate. There are few concerns in woodland management.

Slope is the main limitation to use of this soil as sites for dwellings and septic tank absorption fields. In places excavation and land grading are needed to prepare nearly level sites for dwellings and septic tank absorption fields.

This soil is in capability subclass VIs.

72D—Dummerston silt loam, 15 to 25 percent slopes, very stony. This is a moderately steep, very deep, well drained soil on hilltops and ridgetops. Stones cover 0.1 to 3 percent of the surface.

Typically, the surface layer is covered by a layer of forest litter 3 inches thick. The surface layer is very dark grayish brown silt loam 3 inches thick. The subsoil is channery silt loam 27 inches thick. In the upper part it is dark yellowish brown, in the middle part it is yellowish brown, and in the lower part it is olive. The substratum is dark olive gray channery loam to a depth of 60 inches or more.

Included with this soil in mapping are small areas of the somewhat excessively drained Taconic soils and the well drained Macomber soils on hilltops and ridgetops and the moderately well drained Fullam soils on lower side slopes. In some map units stones cover less than 0.1 percent of the surface or exposed bedrock covers about 1 percent of the surface. The included soils make up about 15 percent of the map unit.

Permeability in this Dummerston soil is moderate. The available water capacity is high. Depth to bedrock is more than 60 inches. Potential frost action is moderate.

Most areas of this soil are wooded. A few areas are farmed.

This soil is not suited to cultivated crops because of stones on the surface and slope.

This soil is not suited to hay and poorly suited to pasture because of stones on the surface and slope. If this soil is used for unimproved pasture, periodic clipping and using rotational grazing help to maintain a good stand of pasture plants.

The potential productivity for sugar maple on this soil is moderate. The main concerns in woodland management are the erosion hazard and the equipment limitation. Laying out skid trails and logging roads across the slope and installing culverts and water bars as necessary help to control erosion. Operating logging equipment across the slope reduces the equipment limitation.

Slope is the main limitation to use of this soil as sites for dwellings and septic tank absorption fields. Extensive excavation and land grading are needed to prepare nearly level sites for dwellings. Special slope design is needed for septic tank absorption fields.

This soil is in capability subclass VIs.

72E—Dummerston silt loam, 25 to 70 percent slopes, very stony. This is a very deep, steep and very steep, and well drained soil on the tops and sides of hills and ridges. Stones cover 0.1 to 3 percent of the surface.

Typically, the surface layer is covered by a layer of forest litter 3 inches thick. The surface layer is very dark grayish brown silt loam 3 inches thick. The subsoil is channery silt loam 27 inches thick. In the upper part it is dark yellowish brown, in the middle part it is yellowish brown, and in the lower part it is olive. The substratum is

dark olive gray channery loam to a depth of 60 inches or more.

Included with this soil in mapping are small areas of the somewhat excessively drained Taconic soils and the well drained Macomber soils on hilltops and ridgetops and the moderately well drained Fullam soils on lower side slopes. In some map units stones cover less than 0.1 percent of the surface or exposed bedrock covers about 1 percent of the surface. The included soils make up about 15 percent of the map unit.

Permeability in this Dummerston soil is moderate. The available water capacity is high. Depth to bedrock is more than 60 inches. Potential frost action is moderate.

Almost all areas of this soil are wooded.

This soil is not suited to cultivated crops, hay, or pasture because of slope and stones on the surface.

The potential productivity for sugar maple on this soil is moderate. The main concerns in woodland management are the erosion hazard and the equipment limitation. Laying out skid trails and logging roads across the slope and installing culverts and water bars as necessary help to control erosion. Operating logging equipment across the slope reduces the equipment limitation.

This soil is not suited to use as sites for dwellings and septic tank absorption fields because of slope.

This soil is in capability subclass VIIs.

73B—Fullam silt loam, 3 to 8 percent slopes. This is a very deep, gently sloping, moderately well drained soil on the tops and sides of hills and ridges.

Typically, the surface layer is very dark grayish brown silt loam 6 inches thick. The subsoil is channery silt loam 16 inches thick. In the upper part it is dark yellowish brown, and in the lower part it is olive, mottled channery silt loam. The substratum is olive and olive gray, mottled, firm channery silt loam to a depth of 60 inches or more. In a few map units the substratum is friable.

Included with this soil in mapping are small areas of the somewhat excessively drained Taconic soils and the well drained Macomber soils on ridgetops, the well drained Dummerston soils on side slopes, and the poorly drained Brayton soils in depressions. In some map units stones cover as much as 3 percent of the surface. The included soils make up about 15 percent of the map unit.

Permeability in this Fullam soil is moderate in the subsoil and slow in the substratum. The available water capacity is moderate. The seasonal high water table is perched at a depth of 1 1/2 to 2 1/2 feet in winter and spring. Depth to bedrock is more than 60 inches. Potential frost action is moderate.

Most areas of this soil are farmed. Some areas are wooded.

This soil is not suited to cultivated crops. Erosion is a hazard, and the seasonal high water table is a management concern. Crop rotation, cover cropping, contour farming, and using conservation tillage help to control erosion. Installing diversion ditches to divert surface runoff also helps to control erosion. In some years spring tillage is delayed because of the seasonal high water table. A subsurface drainage system can be used to lower the seasonal high water table.

This soil is well suited to hay and pasture (fig. 14). Erosion is a hazard, and overgrazing and the seasonal high water table are management concerns. Using stocking rates within grazing capacity, using rotational grazing, and, during wet periods, deferred grazing help to maintain a good stand of hay and pasture plants and to control erosion. Planting water-tolerant plants helps to overcome the seasonal high water table.

The potential productivity for sugar maple on this soil is moderate. There are few concerns in woodland management.

The seasonal high water table is the main limitation to use of this soil as sites for dwellings and septic tank absorption fields. Permeability is also a limitation for sites for septic tank absorption fields. In places a suitable fill material is needed to raise the existing grade of the site for the absorption field. Additional waterproofing practices and footing drains are needed to prevent wet basements. Special construction, such as mounding the septic tank absorption field with a suitable fill material, is needed to raise the absorption field the required distance above the seasonal high water table.

This soil is in capability subclass IIw.

73C—Fullam silt loam, 8 to 15 percent slopes. This is a very deep, strongly sloping, moderately well drained soil on the tops and sides of hills and ridges.

Typically, the surface layer is very dark grayish brown silt loam 6 inches thick. The subsoil is channery silt loam 16 inches thick. In the upper part it is dark yellowish brown, and in the lower part it is olive, mottled channery silt loam. The substratum is olive and olive gray, mottled, firm channery silt loam to a depth of 60 inches or more. In a few map units the substratum is friable.

Included with this soil in mapping are small areas of the somewhat excessively drained Taconic soils and the well drained Macomber soils on ridgetops, the well drained Dummerston soils on side slopes, and the poorly drained Brayton soils in depressions. In some map units stones cover as much as 3 percent of the surface. The included soils make up about 15 percent of this map unit.

Permeability in this Fullam soil is moderate in the subsoil and slow in the substratum. The available water capacity is moderate. The seasonal high water table is perched at a depth of 1 1/2 to 2 1/2 feet in winter and spring. Depth to bedrock is more than 60 inches. Potential frost action is moderate.

Most areas of this soil are farmed. Some areas are wooded.

This soil is suited to cultivated crops. Erosion is a hazard, and the seasonal high water table is a

management concern. Crop rotation, cover cropping, contour farming, and using conservation tillage help to control erosion. Installing diversion ditches to divert surface runoff also helps to control erosion. In some years spring tillage is delayed because of the seasonal high water table. A subsurface drainage system can be used to lower the seasonal high water table.

This soil is well suited to hay and pasture. Erosion is a hazard, and the seasonal high water table is a management concern. Using stocking rates within grazing capacity, using rotational grazing, and, during wet periods, deferred grazing help to maintain a good stand of hay and pasture plants and to control erosion. Planting water-tolerant plants helps to overcome the seasonal high water table.

The potential productivity for sugar maple on this soil is moderate. There are few concerns in woodland management.

Slope and the seasonal high water table are the main limitations to use of this soil as sites for dwellings and septic tank absorption fields. Permeability is also a limitation for septic tank absorption fields. In places excavation is needed to prepare nearly level building sites. Additional waterproofing practices and footing drains are needed to prevent wet basements. Special construction, such as mounding the septic tank absorption field with a suitable fill material, is needed to raise the absorption field the required distance above the seasonal high water table.

This soil is in capability subclass IIIe.

73D—Fullam silt loam, 15 to 25 percent slopes. This is a very deep, moderately steep, moderately well drained soil on the tops and sides of hills and ridges.

Typically, the surface layer is very dark grayish brown silt loam 5 inches thick. The subsoil is channery silt loam 16 inches thick. In the upper part it is dark yellowish brown, and in the lower part it is olive, mottled channery silt loam. The substratum is olive and olive gray, mottled, firm channery silt loam to a depth of 60 inches or more. In a few map units the substratum is friable.

Included with this soil in mapping are small areas of the somewhat excessively drained Taconic soils and the well drained Macomber soils on ridgetops and the well drained Dummerston soils on side slopes. In some map units stones cover as much as 3 percent of the surface. The included soils make up about 15 percent of the map unit.

Permeability in this Fullam soil is moderate in the subsoil and slow in the substratum. The available water capacity is moderate. The seasonal high water table is perched at a depth of 1 1/2 to 2 1/2 feet in winter and spring. Depth to bedrock is more than 60 inches. Potential frost action is moderate.

Most areas of this soil are farmed. Some areas are wooded.

This soil is poorly suited to cultivated crops. Erosion is a hazard, and the seasonal high water table and the equipment limitation are management concerns. Crop rotation, cover cropping, contour farming, and using conservation tillage help to control erosion. A subsurface drainage system can be used to lower the seasonal high water table. Contour farming helps to overcome the equipment limitation.

This soil is suited to hay and pasture. Erosion is a hazard, and overgrazing, the seasonal high water table, and the equipment limitation are management concerns. Long term use of this soil for hay or pasture is effective in controlling erosion. Using stocking rates within grazing capacity, using rotational grazing, and, during wet periods, deferred grazing help to maintain a good stand of hay and pasture plants and to control erosion. Planting water-tolerant plants helps to overcome the seasonal high water table. Seeding, fertilizing, and harvesting hay on the contour helps to overcome the equipment limitation.

The potential productivity for sugar maple on this soil is moderate. The main concerns in woodland management are the erosion hazard and the equipment limitation. Laying out skid trails and logging roads across the slope and installing culverts and water bars as necessary help to control erosion. Operating logging equipment across the slope reduces the equipment limitation.

The seasonal high water table and slope are the main limitation to use of this soil as sites for dwellings and septic tank absorption fields. Permeability is also a limitation for sites for septic tank absorption fields. In places extensive excavation is needed to prepare nearly level building sites. Additional waterproofing practices and footing drains are needed to prevent wet basements. In places special construction, such as mounding the septic tank absorption field with a suitable fill material, is needed to raise the absorption field the required distance above the seasonal high water table.

This soil is in capability subclass IVe.

74B—Fullam silt loam, 3 to 8 percent slopes, very stony. This is a very deep, gently sloping, moderately well drained soil on the tops and sides of hills and ridges. Stones cover 0.1 to 3 percent of the surface.

Typically, the surface layer is covered by a layer of forest litter 2 inches thick. The surface layer is very dark grayish brown silt loam 2 inches thick. The subsoil is channery silt loam 20 inches thick. In the upper part it is dark yellowish brown, and in the lower part it is olive and mottled. The substratum is olive and olive gray, mottled, firm channery silt loam to a depth of 60 inches or more. In a few map units the substratum is friable.

Included in mapping with this soil are small areas of the somewhat excessively drained Taconic soils and the well drained Macomber soils on ridgetops, the well drained Dummerston soils on side slopes, and the poorly

drained Brayton soils in depressions. In some map units stones cover less than 0.1 percent of the surface. The included soils make up about 15 percent of this map unit.

Permeability in this Fullam soil is moderate in the subsoil and slow in the substratum. The available water capacity is moderate. The seasonal high water table is perched at a depth of 1 1/2 to 2 1/2 feet in winter and spring. Depth to bedrock is more than 60 inches. Potential frost action is moderate.

Most areas of this soil are wooded. Some areas are farmed.

This soil is not suited to cultivated crops because of stones on the surface.

This soil is not suited to hay and poorly suited to pasture because of stones on the surface. If this soil is used for unimproved pasture, periodic clipping and using rotational grazing help to maintain a good stand of pasture plants.

The potential productivity for sugar maple on this soil is moderate. There are few concerns in woodland management.

The seasonal high water table is the main limitation to use of this soil as sites for dwellings and septic tank absorption fields. Permeability in the substratum is also a limitation for septic tank absorption fields. In places a suitable fill material is needed to raise the existing grade of the site. Additional waterproofing practices and footing drains are needed to prevent wet basements. In places special construction, such as mounding the septic tank absorption field with a suitable fill material, is needed to raise the absorption field the required distance above the seasonal high water table.

This soil is in capability subclass VIs.

74C—Fullam silt loam, 8 to 15 percent slopes, very stony. This is a very deep, strongly sloping, moderately well drained soil on the tops and sides of hills and ridges. Stones cover 0.1 to 3 percent of the surface.

Typically, the surface layer is covered by a layer of forest litter 2 inches thick. The surface layer is very dark grayish brown silt loam 2 inches thick. The subsoil is channery silt loam 20 inches thick. In the upper part it is dark yellowish brown, and in the lower part it is olive and mottled. The substratum is olive and olive gray, mottled, firm channery silt loam to a depth of 60 inches or more. In a few map units the substratum is friable.

Included in mapping with this soil are small areas of the somewhat excessively drained Taconic soils and the well drained Macomber soils on ridgetops, the well drained Dummerston soils on side slopes, and the poorly drained Brayton soils in depressions. In some map units stones cover less than 0.1 percent of the surface. The included soils make up about 15 percent of the map unit.

Permeability in this Fullam soil is moderate in the subsoil and slow in the substratum. The available water capacity is moderate. The seasonal high water table is perched at a depth of 1 1/2 to 2 1/2 feet in winter and spring. Depth to bedrock is more than 60 inches. Potential frost action is moderate.

Most areas of this soil are wooded. Some areas are farmed.

This soil is not suited to cultivated crops because of stones on the surface.

This soil is not suited to hay and poorly suited to pasture because of stones on the surface. If this soil is used for unimproved pasture, periodic clipping and using rotational grazing help to maintain a good stand of pasture plants.

The potential productivity for sugar maple on this soil is moderate. There are few concerns in woodland management.

The seasonal high water table and slope are the main limitations to use of this soil as sites for dwellings and septic tank absorption fields. The permeability is also a limitation for septic tank absorption fields. In places excavation is needed to prepare nearly level building sites. Additional waterproofing practices and footing drains are needed to prevent wet basements. In places special construction, such as mounding the septic tank absorption field with a suitable fill material, is needed to raise the absorption field the required distance above the seasonal high water table.

This soil is in capability subclass VIs.

74D—Fullam silt loam, 15 to 25 percent slopes, very stony. This is a very deep, moderately steep, moderately well drained soil on the tops and sides of hills and ridges. Stones cover 0.1 to 3 percent of the surface.

Typically, the surface layer is covered by a layer of forest litter 2 inches thick. The surface layer is very dark grayish brown silt loam 2 inches thick. The subsoil is channery silt loam 20 inches thick. In the upper part it is dark yellowish brown, and in the lower part it is olive and mottled. The substratum is olive and olive gray, mottled, firm channery silt loam to a depth of 60 inches or more. In a few map units the substratum is friable.

Included with this soil in mapping are small areas of the somewhat excessively drained Taconic soils and the well drained Macomber soils on ridgetops and the well drained Dummerston soils on side slopes. In some map units stones cover less than 0.1 percent of the surface. The included soils make up about 15 percent of the map unit.

Permeability in this Fullam soil is moderate in the subsoil and slow in the substratum. The available water capacity is moderate. The seasonal high water table is perched at a depth of 1 1/2 to 2 1/2 feet in winter and spring. Depth to bedrock is more than 60 inches. Potential frost action is moderate.

Most areas of this soil are wooded. Some areas are farmed.

This soil is not suited to cultivated crops because of stones on the surface.

This soil is not suited to hay and poorly suited to pasture because of stones on the surface. If this soil is used for unimproved pasture, periodic clipping and using rotational grazing help to maintain a good stand of pasture plants.

The potential productivity for sugar maple on this soil is moderate. The main concerns in woodland management are the erosion hazard and the equipment limitation. Laying out skid trails and logging roads across the slope and installing culverts and water bars as necessary help to control erosion. Operating logging equipment across the slope reduces the equipment limitation.

The seasonal high water table and slope are the main limitations to use of this soil as sites for dwellings and septic tank absorption fields. Permeability is also a limitation for sites for septic tank absorption fields. In places extensive excavation is needed to prepare nearly level building sites. Additional waterproofing practices and footing drains are needed to prevent wet basements. In places special construction, such as mounding the septic tank absorption field with a suitable fill material, is needed to raise the absorption field the required distance above the seasonal high water table.

This soil is in capability subclass VIs.

74E—Fullam silt loam, 25 to 35 percent slopes, very stony. This is a very deep, steep, and moderately well drained soil on the tops and sides of hills and ridges. Stones cover 0.1 to 3 percent of the surface.

Typically, the surface layer is covered by a layer of forest litter 2 inches thick. The surface layer is very dark grayish brown silt loam 2 inches thick. The subsoil is channery silt loam 20 inches thick. In the upper part it is dark yellowish brown, and in the lower part it is olive and mottled. The substratum is olive and olive gray, mottled, firm channery silt loam to a depth of 60 inches or more. In a few map units the substratum is friable.

Included with this soil in mapping are small areas of the somewhat excessively drained Taconic soils and the well drained Macomber soils on ridgetops and the well drained Dummerston soils on side slopes. In some map units stones cover less than 0.1 percent of the surface. The included soils make up about 15 percent of the map unit.

Permeability in this Fullam soil is moderate in the subsoil and slow in the substratum. The available water capacity is moderate. The seasonal high water table is perched at a depth of 1 1/2 to 2 1/2 feet in winter and spring. Depth to bedrock is more than 60 inches. Potential frost action is moderate.

Almost all areas of this soil are wooded.

This soil is not suited to cultivated crops, hay, or pasture because of slope and stones on the surface.

The potential productivity for sugar maple on this soil is moderate. The main concerns in woodland management are the erosion hazard and the equipment limitation. Laying out skid trails and logging roads across the slope and installing culverts and water bars as necessary help to control erosion. Operating logging equipment across the slope reduces the equipment limitation.

This soil is not suited to use as sites for dwellings and septic tank absorption fields because of slope, permeability, and the seasonal high water table.

This soil is in capability subclass VIIs.

75B—Brayton silt loam, 2 to 8 percent slopes, very stony. This is a very deep, gently sloping, and poorly drained soil in depressions and drainageways in upland areas. Stones cover 0.1 to 3 percent of the surface.

Typically, the surface layer is covered by a layer of forest litter 1 inch thick. The surface layer is very dark brown silt loam 4 inches thick. The subsoil is mottled silt loam 13 inches thick. In the upper part it is olive, and in the lower part it is olive gray. The substratum is dark gray and olive, mottled very firm and firm channery silt loam and channery loam to a depth of 60 inches or more. In a few map units the substratum is friable.

Included with this soil in mapping are small areas of the well drained Dummerston soils and the moderately well drained Fullam soils on side slopes and the very poorly drained Markey soils in depressions. In a few map units stones cover less than 0.1 percent of the surface. The included soils make up about 15 percent of this map unit.

Permeability in this Brayton soil is moderate in the subsoil and slow in the substratum. The available water capacity is moderate. The seasonal high water table is perched between a depth of 1 1/2 feet and the surface in autumn, winter, and spring. Depth to bedrock is more than 60 inches. Potential frost action is high.

Most areas of this soil are wooded. A few areas are farmed.

This soil is not suited to cultivated crops because of stones on the surface and the seasonal high water table.

This soil is not suited to hay and poorly suited to pasture because of stones on the surface. If this soil is used for unimproved pasture, periodic clipping and using rotational grazing help to maintain a good stand of pasture plants.

The potential productivity for red spruce on this soil is high. The main concerns in woodland management are the equipment limitation, the windthrow hazard, and the rate of seedling mortality. Operating logging equipment is difficult during extended wet periods. Logging operations are more efficient during dry periods or when the soil is frozen. Windthrow is a hazard during wet periods because root growth is limited by the firm substratum. Selective cutting helps to reduce the windthrow hazard. In some years seedling losses are high during wet

periods in spring. Using special planting stock and, in places, special site preparations, such as bedding and furrowing before planting, helps to reduce seedling losses.

The seasonal high water table is the main limitation to use of this soil as sites for dwellings and septic tank absorption fields. Permeability in the substratum is also a limitation for septic tank absorption fields. In places a suitable fill material is needed to raise the existing grade of the site. Additional waterproofing practices and footing drains are needed to prevent wet basements. In places special construction, such as mounding the septic tank absorption field with a suitable fill material, is needed to raise the absorption field the required distance above the seasonal high water table.

This soil is in capability subclass VIs.

76B—Dummerston-Macomber complex, 3 to 8 percent slopes, rocky. This map unit consists of gently sloping soils on the tops and sides of hills, ridges, and mountains. The very deep, well drained Dummerston soil is generally on back slopes and shoulders, and the moderately deep, well drained Macomber soil is on summits. A typical area of the map unit is about 55 percent Dummerston soil, 35 percent Macomber soil, and 10 percent other soils. Rock outcrops cover about 1 percent of the surface. The Dummerston and Macomber soils are so intermingled that it was not practical to map them separately.

Typically, the surface layer of the Dummerston soil is dark brown silt loam 9 inches thick. The subsoil is channery silt loam 21 inches thick. In the upper part it is yellowish brown, and in the lower part it is olive. The substratum is dark olive gray channery loam to a depth of 60 inches or more.

Typically, the surface layer of the Macomber soil is dark grayish brown channery silt loam 9 inches thick. The subsoil is light olive brown channery loam 7 inches thick. The substratum is dark grayish brown very channery silt loam 18 inches thick. Bedrock is at a depth of 26 inches.

Included with these soils in mapping are small areas of the excessively drained Hubbarton soils and the somewhat excessively drained Taconic soils on ridgetops, the moderately well drained Fullam soils on foot slopes, and the poorly drained Brayton soils in depressions. In some map units exposed bedrock covers up to 10 percent of the surface or stones cover as much as 3 percent of the surface. Also included are areas of soils that are on upper side slopes and that have bedrock at a depth of 40 to 60 inches. The included soils make up about 15 percent of the map unit.

Permeability is moderate in the Dummerston and Macomber soils. The available water capacity is high in the Dummerston soil and moderate in the Macomber soil. Depth to bedrock is more than 60 inches in the Dummerston soil and 20 to 40 inches in the Macomber soil. Potential frost action is moderate for both soils.

Most areas of these soils are farmed. A few areas are wooded.

These soils are well suited to cultivated crops. Erosion is a hazard, and areas of exposed bedrock are a management concern. Crop rotation, cover cropping, contour farming, and using conservation tillage help to control erosion. In places small areas of exposed bedrock interfere with tillage operations. Using conservation tillage helps to reduce this concern.

These soils are well suited to hay and pasture. Erosion is a hazard. Using stocking rates within grazing capacity and rotational grazing help to maintain a good stand of hay and pasture plants and to control erosion.

The potential productivity for sugar maple on these soils is moderate. There are few concerns in woodland management.

There are few limitations to use of the Dummerston soil as sites for dwellings and septic tank absorption fields. Depth to bedrock is a limitation to use of the Macomber soil as sites for dwellings and septic tank absorption fields. Bedrock limits the ease of deep excavation. In places special construction, such as mounding the absorption field with a suitable fill material, is needed to raise the absorption field the required distance above bedrock.

These soils are in capability subclass IIs.

76C—Dummerston-Macomber complex, 8 to 15 percent slopes, rocky. This map unit consists of strongly sloping soils on the tops and sides of hills, ridges, and mountains. The very deep, well drained Dummerston soil is generally on back slopes and shoulders, and the moderately deep, well drained Macomber soil is on summits. A typical area of the map unit is about 55 percent Dummerston soil, 35 percent Macomber soil, and 10 percent other soils. Rock outcrops cover about 1 percent of the surface. The Dummerston and Macomber soils are so intermingled that it was not practical to map them separately.

Typically, the surface layer of the Dummerston soil is dark brown silt loam 7 inches thick. The subsoil is channery silt loam 21 inches thick. In the upper part it is yellowish brown, and in the lower part it is olive. The substratum is dark olive gray channery loam to a depth of 60 inches or more.

Typically, the surface layer of the Macomber soil is dark grayish brown channery silt loam 6 inches thick. The subsoil is light olive brown channery loam 7 inches thick. The substratum is dark grayish brown very channery silt loam 18 inches thick. Bedrock is at a depth of 26 inches.

Included with these soils in mapping are small areas of the excessively drained Hubbardton soils and the somewhat excessively drained Taconic soils on ridgetops, the moderately well drained Fullam soils on

foot slopes, and the poorly drained Brayton soils in depressions. In some map units exposed bedrock covers up to 10 percent of the surface. In some areas of the map unit stones cover as much as 3 percent of the surface. Also included are areas of soils that are on upper side slopes and that have bedrock at a depth of 40 to 60 inches. The included soils make up about 15 percent of the map unit.

Permeability is moderate in the Dummerston and Macomber soils. The available water capacity is high in the Dummerston soil and moderate in the Macomber soil. Depth to bedrock is more than 60 inches in the Dummerston soil and 20 to 40 inches in the Macomber soil. Potential frost action is moderate for both soils.

Most areas of these soils are farmed. A few areas are wooded.

These soils are suited to cultivated crops. Erosion is a hazard, and areas of exposed bedrock are management concerns. Crop rotation, cover cropping, contour farming, and using conservation tillage help to control erosion. In places small areas of exposed bedrock interfere with tillage operations. Using conservation tillage helps to reduce this concern.

These soils are well suited to hay and pasture. Erosion is a hazard, and overgrazing is a management concern. Using stocking rates within grazing capacity and rotational grazing help to maintain a good stand of hay and pasture plants and to control erosion.

The potential productivity for sugar maple on these soils is moderate. There are few concerns in woodland management.

Slope limits the use of these soils as sites for dwellings and septic tank absorption fields. In places limited excavation is needed to prepare nearly level sites for dwellings and septic tank absorption fields. Depth to bedrock also limits the use of the Macomber soil as sites for dwellings and septic tank absorption fields. Bedrock limits the ease of deep excavation. In places special construction, such as mounding the septic tank absorption field with a suitable fill material, is needed to raise the absorption field the required distance above bedrock.

These soils are in capability subclass IIIe.

Prime Farmland

Prime farmland is one of several kinds of important farmlands defined by the U.S. Department of Agriculture. Identification of prime farmland is a major step in meeting the Nation's needs for food and fiber.

The U.S. Department of Agriculture defines prime farmland as the land that is best suited to producing food, feed, forage, fiber, and oilseed crops. It has the soil quality, growing season, and moisture supply needed to produce a sustained high yield of crops while using acceptable farming methods. Prime farmland produces the highest yields and requires minimal amounts of energy and economic resources, and farming it results in the least damage to the environment.

An area identified as prime farmland must be used for producing food or fiber or must be available for those uses. Thus, urban and built-up land and water areas are not classified as prime farmland.

The general criteria for prime farmland are as follows: a generally adequate and dependable supply of moisture from precipitation or irrigation, favorable temperature and growing-season length, acceptable levels of acidity or alkalinity, few or no rocks, and permeability to air and water. Prime farmland is not excessively erodible, is not saturated with water for long periods, and is not flooded during the growing season. The slope range is mainly from 0 to 6 percent. For more detailed information on the criteria for prime farmland, consult the local staff of the Soil Conservation Service.

The survey area contains about 13,470 acres of prime farmland. That acreage makes up about 2.7 percent of the total acreage in the survey area. Areas of prime farmland are scattered throughout the county, but most are in the eastern part, mainly in map units 1, 2, and 6 of the general soil map.

The soil map units that make up prime farmland in the survey area are listed in table 5. This list does not constitute a recommendation for a particular land use. The extent of each listed map unit is shown in table 4, and the location of each unit is shown on the detailed soil maps at the back of this publication. The soil properties and characteristics that affect use and management of the units are described in the section "Detailed soil map units."

Prime farmland is not synonymous with primary agricultural soils as defined in the Vermont Land Use and Development Law (Act 250). For more detailed information on the criteria for and definitions of primary agricultural soils, and for a list of primary agricultural soils, consult the local staff of the Soil Conservation Service.

Use and Management of the Soils

This soil survey is an inventory and evaluation of the soils in the survey area. It can be used to adjust land uses to the limitations and potentials of natural resources and the environment. Also, it can help avoid soil-related failures in land uses.

In preparing a soil survey, soil scientists, conservationists, engineers, and others collect extensive field data about the nature and behavior characteristics of the soils. They collect data on erosion, droughtiness, flooding, and other factors that affect various soil uses and management. Field experience and collected data on soil properties and performance are used as a basis in predicting soil behavior.

Information in this section can be used to plan the use and management of soils for crops and pasture; as woodland; as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreation facilities; and for wildlife habitat. It can be used to identify the potentials and limitations of each soil for specific land uses and to help prevent construction failures caused by unfavorable soil properties.

Planners and others using soil survey information can evaluate the effect of specific land uses on productivity and on the environment in all or part of the survey area. The survey can help planners to maintain or create a land use pattern in harmony with the natural soil.

Contractors can use this survey to locate sources of sand and gravel, roadfill, and topsoil. They can use it to identify areas where bedrock, wetness, or very firm soil layers can cause difficulty in excavation.

Health officials, highway officials, engineers, and others may also find this survey useful. The survey can help them plan the safe disposal of wastes and locate sites for pavements, sidewalks, campgrounds, playgrounds, lawns, and trees and shrubs.

Crops and Pasture

General management needed for crops and pasture is suggested in this section. The crops or pasture plants best suited to the soils, including some not commonly grown in the survey area, are identified; the system of land capability classification used by the Soil Conservation Service is explained; and the estimated yields of the main crops and hay and pasture plants are listed for each soil.

Planners of management systems for individual fields or farms should consider the detailed information given in the description of each soil under "Detailed Soil Map Units." Specific information can be obtained from the local office of the Soil Conservation Service or the Cooperative Extension Service.

In 1978, according to the Census of Agriculture of that year, about 28,100 acres in Windham County was used for crops and pasture (*8*). Of this total, about 13,000 acres was used for hay, 10,000 acres was used for pasture, 3,900 acres was used for corn, 900 acres was used as orchards, and 300 acres was used for truck crops.

The grass-legume mixture most commonly used for hay and pasture consists of alfalfa, bromegrass, and timothy. Red clover, alsike clover, redtop, reed canarygrass, and orchardgrass are also grown. Alfalfa grows better on soils that are moderately well drained or well drained than on wet soils. Reed canarygrass and alsike clover are grown on some wet soils and in inadequately drained areas.

In managing a good stand of perennial pasture plants, using a sound fertilizer program, proper grazing use, and necessary brush and weed control ensure good growth for a long period. Proper grazing use includes using stocking rates within grazing capacity, using rotational grazing, and deferred grazing during wet periods.

Specialty crops include vegetables, tree fruits, small fruits, and nursery plants. Vegetables, including sweet corn, tomatoes, potatoes, melons, and squash, are grown mainly on bottom lands and terraces of the Connecticut River. The main tree fruit is apples. Apple orchards as well as nurseries, are on uplands in the eastern part of the county (fig. 15). Small fruits include strawberries, blueberries, and raspberries.

The very deep, well drained soils that warm up early in spring, such as Unadilla, Agawam, and Windsor soils, are especially well suited to many vegetables and small fruits. On these soils, crops generally can be planted and harvested earlier than on the other soils in the county. Soils in low positions, however, where frost is frequent and air drainage is poor, are generally poorly suited to early vegetables, small fruits, and orchard crops.

The latest information and suggestions for growing crops can be obtained from local offices of the Cooperative Extension Service and the Soil Conservation Service.

Figure 15.—In the foreground, an area of Marlow fine sandy loam, 15 to 25 percent slopes, used as pastureland. In the background, an area of Marlow fine sandy loam, 8 to 15 percent slopes, used as an apple orchard.

On most arable soils, crops respond well to nitrate and phosphate fertilizers and potash. On most soils, periodic applications of lime are needed to raise the pH sufficiently for good growth of alfalfa and other crops that grow well only on slightly acid or neutral soils. On all soils, applications of lime and fertilizers should be based on the results of soil tests, on the needs of the crop, and on the expected yield. Information and suggestions on determining the application rate of lime and fertilizers can be obtained from the Cooperative Extension Service.

Soil erosion reduces the productivity of soil by removing the surface layer, which contains most of the available plant nutrients and most of the organic matter. Loss of the surface layer is especially damaging on soils that have a dense subsoil or substratum or are underlain by bedrock that limits depth of the root zone. Marlow and Fullam soils have a dense substratum, and Lyman and Tunbridge soils are underlain by bedrock within 40 inches of the surface.

Soil erosion on cropland in many areas also results in the pollution of streams by sediment, nutrients, and pesticides. Controlling erosion minimizes the pollution of streams and improves water quality for municipal use, recreation, and fish and wildlife.

Erosion control practices provide a protective surface cover, reduce runoff, and increase infiltration. A cropping system that keeps a plant cover on the soil for extended periods helps to control erosion and to maintain the productive capacity of the soils. Legume and grass forage crops used in the cropping system help to control erosion on sloping land, provide nitrogen for other crops, and improve the soil tilth.

Stripcropping, or planting alternate strips of row crops and grass crops across the slope, is effective in controlling erosion on soils that have long, uniform slopes.

Stripcropping is not practical in some areas of the county, where the soils have short, irregular slopes. On these soils, using a cropping system that includes a cover crop or using conservation tillage, or both, is required to control erosion. These are suitable management practices for most of the soils in the county.

Diversions intercept water, reduce the length of the slope, and protect fields downslope. Their use is most practical on deep soils that have uniform slopes. Diversions are suitable on some areas of Marlow and Fullam soils. Usually, they are not suitable on soils that have irregular slopes, are excessively wet, or have bedrock at a depth of less than 40 inches.

Providing adequate soil drainage is a management concern on about one-fourth of the acreage used for crops and pasture. The somewhat poorly drained and poorly drained soils are naturally so wet that they are not suitable for use as cropland unless artificially drained. Brayton soils are poorly drained. Other poorly drained soils, such as Walpole, Limerick, and Rumney soils, generally do not have adequate outlets for artificial drainage systems.

Information on erosion control and drainage practices for each kind of soil can be obtained at the local office of the Soil Conservation Service.

Yields Per Acre

The average yields per acre that can be expected of the principal crops under a high level of management are shown in table 6. In any given year, yields may be higher or lower than those indicated in the table because of variations in rainfall and other climatic factors. The land capability classification of each map unit also is shown in the table.

The yields are based mainly on the experience and records of farmers, conservationists, and extension agents. Available yield data from nearby counties and results of field trials and demonstrations are also considered.

The management needed to obtain the indicated yields of the various crops depends on the kind of soil and the crop. Management can include drainage, erosion control, and protection from flooding; the proper planting and seeding rates; suitable high-yielding crop varieties; appropriate and timely tillage; control of weeds, plant diseases, and harmful insects; favorable soil reaction and optimum levels of nitrogen, phosphorus, potassium, and trace elements for each crop; effective use of crop residue, barnyard manure, and green manure crops; and harvesting that ensures the smallest possible loss.

The estimated yields reflect the productive capacity of each soil for each of the principal crops. Yields are likely to increase as new production technology is developed. The productivity of a given soil compared with that of other soils, however, is not likely to change.

Crops other than those shown in table 6 are grown in the survey area, but estimated yields are not listed because the acreage of such crops is small. The local office of the Soil Conservation Service or of the Cooperative Extension Service can provide information about the management and productivity of the soils for those crops.

Land Capability Classification

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops (*5*). Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping the soils do not include major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for woodland or for engineering purposes.

In the capability system, soils are generally grouped at three levels: capability class, subclass, and unit. Only class and subclass are used in this survey. The levels are defined in the following paragraphs.

Capability classes, the broadest groups, are designated by Roman numerals I through VIII. The numerals indicate progressively greater limitations and narrower choices for practical use. The classes are defined as follows:

Class I soils have slight limitations that restrict their use.

Class II soils have moderate limitations that reduce the choice of plants or that require moderate conservation practices.

Class III soils have severe limitations that reduce the choice of plants or that require special conservation practices, or both.

Class IV soils have very severe limitations that reduce the choice of plants or that require very careful management, or both.

Class V soils are not likely to erode but have other limitations, impractical to remove, that limit their use.

Class VI soils have severe limitations that make them generally unsuitable for cultivation.

Class VII soils have very severe limitations that make them unsuitable for cultivation.

Class VIII soils and miscellaneous areas have limitations that nearly preclude their use for commercial crop production.

Capability subclasses are soil groups within one class. They are designated by adding a small letter, *e, w, s,* or *c*, to the class numeral, for example, IIe. The letter *e* shows that the main limitation is risk of erosion unless close-growing plant cover is maintained; *w* shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); *s* shows that the soil is limited mainly because it is shallow, droughty, or stony; and *c*, used in only some parts of the United States, shows that the chief limitation is climate that is very cold or very dry.

In class I there are no subclasses because the soils of this class have few limitations. Class V contains only the subclasses indicated by *w, s,* or *c* because the soils in class V are subject to little or no erosion. They have other limitations that restrict their use to pasture, woodland, wildlife habitat, or recreation.

Capability units are soil groups within a subclass. The soils in a capability unit are enough alike to be suited to the same crops and pasture plants, to require similar management, and to have similar productivity. Capability units are generally designated by adding an Arabic numeral to the subclass symbol, for example, IIe-4 or IIIe-6.

The acreage of soils in each capability class and subclass is shown in table 7. The capability classification of each map unit is given in the section "Detailed Soil Map Units."

Woodland Management and Productivity

Gilbert P. Cameron, Windham County forester, Vermont Agency of Environmental Conservation, helped to prepare this section.

The forests of Windham County range from the spruce-fir-hemlock type and northern hardwoods type of the Green Mountains and their foothills to the eastern white pine-hemlock type, northern hardwoods type, and black birch-oak-hickory type in the Vermont Piedmont. Tree species vary in part with soil drainage and soil temperature.

During the Civil War, forest land took in about 35 percent of the land area in the survey area. At present it takes in about 90 percent, or 450,000 acres. At present, about as much land area is cleared as is reverting to forest land.

The forest land for the most part is cleared for recreation use. The county lies in close proximity to the large population centers of the Northeast. Recreation has long been a major part of the economy, and the tourist industry thrives year round. Appreciation of the aesthetic value of the forest land has increased, and demand for land for second homes, ski trails, commercial housing, and services is growing stronger. Land values are under so much pressure that they have a strong impact on land use.

Nearly ten percent of the timber production in Vermont is centered in Windham County. The least accessible lands are used for timber production because of development in close-in areas. Continuing strip development tends to limit access to some productive woodland areas. Some of the most productive areas near roads are the areas most highly valued for development. The soils in such areas likely are suitable for development.

Ownership patterns have been strongly influenced by the trend toward recreation use, and individual holdings have grown smaller. Large holdings have been divided into 10- or 15-acre lots. To make commercial timber production feasible, such lots need to be managed in blocks. This is seldom practical, however, because of social factors and changes in ownership.

Lumber markets have been quite strong for a period of years. Much of the forested area usually has been overcut. Red oak, pine, ash, yellow birch, and sugar maple have been under heavy cutting pressure and, of these, only sugar maple appears to be increasing in standing volume. Forest production on good sites can be greatly increased by intensive management practices. Such practices are often expensive, so it is important to identify the soils most capable of producing maximum growth and yielding the greatest return on the investment.

Firewood is an important renewable source of heat and energy in the county. At least half of the residences use firewood as either the main or supplementary source of heat. Most of a tree can be burned as firewood. Maple, oak, birch, and beech are the most common trees used for firewood; however, most trees have some value as fuel. Using cull trees for firewood has improved the quality of many hardwood timber stands. However, overutilization of cull trees and, consequently, the cutting of den trees, may be detrimental to wildlife.

The potential for maple syrup production, an important industry in the county, is good for northern hardwood stands that are dominantly mature sugar maple. Many farmers and other landowners earn supplemental income from sugarbush operations.

Table 8 can be used by woodland owners or forest managers in planning the use of soils for wood crops. Only those soils suitable for wood crops are listed in the tables. The table gives the ordination symbol for each soil. Soils assigned the same ordination symbol require the same general management and have about the same potential productivity.

The first part of the *ordination symbol*, a number, indicates the potential productivity of the soils for an indicator tree species. The number indicates the volume, in cubic meters per hectare per year, that the indicator species can produce. The larger the number, the greater the potential productivity. The number 1 indicates low productivity; 2 and 3, moderate; 4 and 5, moderately high; 6 through 8, high; 9 through 11, very high; and 12 or more, extremely high. The second part of the symbol, a letter, indicates the major kind of soil limitation for use and management. The letter *R* indicates steep slopes; *X*, stones or rocks on the surface; *W*, excessive water in or on the soil; *T*, excessive alkalinity, acidity, sodium salts, or other toxic substances in the soil; *D*, restricted rooting depth caused by bedrock, hardpan, or other restrictive layer; *C*, clay in the upper part of the soil; *S*, sandy texture; and *F*, high content of rock fragments in the soil profile. The letter *A* indicates that limitations or restrictions are insignificant. If a soil has more than one limitation, the priority is as follows: R,X,W,T,D,C,S, and F.

In table 8, *slight, moderate,* and *severe* indicate the degree of the major soil limitations to be considered in management.

Erosion hazard is the probability that erosion can occur as a result of site preparation or following cutting operations and where the soil is exposed, for example, roads, skid trails, fire lanes, and log handling areas. Forests that are abused by fire or overgrazing are also subject to erosion. The ratings for the erosion hazard are based on the percent of the slope and on the erosion factor K shown in table 16. A rating of *slight* indicates that no particular measures to prevent erosion are needed under ordinary conditions. A rating of *moderate* indicates that erosion control measures are needed in certain silvicultural activities. A rating of *severe* indicates that special precautions are needed to control erosion in most silvicultural activities.

The proper construction and maintenance of roads, trails, landings, and fire lanes will help overcome the erosion hazard.

Equipment limitation reflects the characteristics and conditions of the soil that restrict use of the equipment generally needed in woodland management or harvesting. The chief characteristics and conditions considered in the ratings are slope, stones on the surface, rock outcrops, soil wetness, and texture of the surface layer. A rating of *Slight* indicates that equipment use normally is not restricted either in kind of equipment that can be used or time of year because of soil factors. If soil wetness is a factor, equipment use can be restricted for a period not to exceed 1 month. A rating of *moderate* indicates that equipment use is moderately restricted because of one or more soil factors. If soil wetness is a factor, equipment use is restricted for 1 to 3 months. A rating of *severe* indicates that equipment use is severely restricted either in kind of equipment or season of use. If soil wetness is a factor, equipment use is restricted for more than 3 months.

Choosing the most suitable equipment and timing harvesting and other management operations to avoid seasonal limitations help overcome the equipment limitation.

Seedling mortality refers to the probability of death of naturally occuring or planted tree seedlings as influenced by kinds of soil or topographic conditions. The factors considered in rating the soils for seedling mortality are texture of the surface layer, depth and duration of the water table, rock fragments in the surface layer, rooting depth, and aspect of the slope. A rating of *slight* indicates that under usual conditions the expected mortality is less than 25 percent. A rating of *moderate* indicates that the expected mortality is 25 to 50 percent. Extra precautions are advisable. A rating of *severe* indicates that the expected mortality is more than 50 percent. Extra precautions are important. Replanting may be necessary.

The use of special planting stock and special site preparation, such as bedding, furrowing, or surface drainage, can help reduce seedling mortality.

Windthrow hazard is the likelihood of trees being uprooted (tipped over) by the wind because the soil is not deep enough for adequate root anchorage. The main restrictions are a seasonal high water table and bedrock or a fragipan or other limiting layer. A rating of *slight* indicates that normally no trees are blown down by the wind. Strong winds may break trees but do not uproot them. A rating of *moderate* indicates that moderate or strong winds occasionally blow down a few trees during periods of soil wetness. A rating of *severe* indicates that moderate or strong winds may blow down many trees during periods of soil wetness.

The use of specialized equipment that does not damage surficial root systems during partial cutting operations can help reduce windthrow. Care in thinning or no thinning also can help reduce windthrow.

The *potential productivity* of merchantable or *common trees* on a soil is expressed as a *site index*. This index is the average height, in feet, that dominant and codominant trees of a given species attain in a specified number of years. The site index applies to fully stocked, even-aged, unmanaged stands. Common trees are those that woodland managers generally favor in intermediate or improvement cuttings. They are selected on the basis of growth rate, quality, value, and marketability.

The *productivity class*, a number, represents an expected volume produced by the most important trees. This number, expressed as cubic meters per hectare per year, indicates the amount of fiber produced on a fully stocked, even-aged, unmanaged stand. One cubic meter per hectare equals 14.3 cubic feet per acre.

The first tree species listed under common trees for a soil is the indicator species for that soil. The indicator species is the species that is common in the area and is generally the most productive on the soil. The productivity class of the indicator species is the number used for the ordination symbol.

Trees to plant are those that are suited to the soil and are planted for commercial wood production.

Recreation

In Windham County outdoor recreation includes skiing, hunting, fishing, hiking, picnicking, and camping.

Skiing has the greatest economic and physical impact. The nine ski areas in the county offer downhill and cross country trail systems. Several ski areas have off-season attractions, such as golf courses and meeting centers. Some areas of woodland adjacent to ski areas have been cleared and are used for vacation home development.

About 17,000 acres of the Green Mountain National Forest lies within the county. Part of the hiking trail system known as the Long Trail, which runs north-south

throughout Vermont, is in the national forest. Also available to the public for recreation use are five state parks and several state forests.

There are several golf courses and a number of private campgrounds in the county. Many towns have town forests and parks.

The soils of the survey area are rated in table 9 according to limitations that affect their suitability for recreation. The ratings are based on restrictive soil features, such as wetness, slope, and texture of the surface layer. Susceptibility to flooding is considered. Not considered in the ratings, but important in evaluating a site, are the location and accessibility of the area, the size and shape of the area and its scenic quality, vegetation, access to water, potential water impoundment sites, and access to public sewerlines. The capacity of the soil to absorb septic tank effluent and the ability of the soil to support vegetation are also important. Soils subject to flooding are limited for recreation use by the duration and intensity of flooding and the season when flooding occurs. In planning recreation facilities, onsite assessment of the height, duration, intensity, and frequency of flooding is essential.

In table 9, the degree of soil limitation is expressed as slight, moderate, or severe. *Slight* means that soil properties are generally favorable and that limitations are minor and easily overcome. *Moderate* means that limitations can be overcome or alleviated by planning, design, or special maintenance. *Severe* means that soil properties are unfavorable and that limitations can be offset only by costly soil reclamation, special design, intensive maintenance, limited use, or by a combination of these measures.

The information in table 9 can be supplemented by other information in this survey, for example, interpretations for septic tank absorption fields in table 12 and interpretations for dwellings without basements and for local roads and streets in table 11.

Camp areas require site preparation, such as shaping and leveling the tent and parking areas, stabilizing roads and intensively used areas, and installing sanitary facilities and utility lines. Camp areas are subject to heavy foot traffic and some vehicular traffic. The best soils have gentle slopes and are not wet or subject to flooding during the period of use. The surface has few or no stones or boulders, absorbs rainfall readily but remains firm, and is not dusty when dry. Strong slopes and stones or boulders can greatly increase the cost of constructing campsites.

Picnic areas are subject to heavy foot traffic. Most vehicular traffic is confined to access roads and parking areas. The best soils for picnic areas are firm when wet, are not dusty when dry, are not subject to flooding during the period of use, and do not have slopes or stones or boulders that increase the cost of shaping sites or of building access roads and parking areas.

Playgrounds require soils that can withstand intensive foot traffic. The best soils are almost level and are not wet or subject to flooding during the season of use. The surface is free of stones and boulders, is firm after rains, and is not dusty when dry. If grading is needed, the depth of the soil over bedrock or a hardpan should be considered.

Paths and trails for hiking and horseback riding should require little or no cutting and filling. The best soils are not wet, are firm after rains, are not dusty when dry, and are not subject to flooding more than once a year during the period of use. They have moderate slopes and few or no stones or boulders on the surface.

Golf fairways are subject to heavy foot traffic and some light vehicular traffic. Cutting or filling may be required. The best soils for use as golf fairways are firm when wet, are not dusty when dry, and are not subject to prolonged flooding during the period of use. They have moderate slopes and no stones or boulders on the surface. The suitability of the soil for tees or greens is not considered in rating the soils.

Wildlife Habitat

Kim Royar, biologist, Vermont Agency of Environmental Conservation, helped to prepare this section.

Windham County harbors a wide variety of wildlife. White-tailed deer, the state's most important big game animal, are numerous. Providing for the deer's most critical habitat component, winter cover, requires maintaining stands of softwood (conifers). Windham County has some of the best deer range in Vermont. An abundance of good winter cover is interspersed with other desirable habitat components, such as hardwoods, forest clearings, brushlands, and croplands.

Black bears inhabit the remoter, mountainous areas of the county, especially those that support stands of beech, cherry, and other mast-producing species. These tree species, along with oak and hop-hornbeam, are also an important food source for such species as grouse, turkey, deer, and small mammals.

Nongame species include songbirds, several species of hawks and owls, and, at times, an osprey in the Connecticut River Valley.

The river valley and other wetland areas are the feeding, resting, and nesting sites for migrations of waterfowl in spring and fall. These sites also provide food and cover for other wetland species, such as beaver, otter, mink, muskrat, raccoons, and a variety of amphibians.

Turkey, fox, deer, and cottontails also inhabit the open or agricultural areas scattered throughout the county.

The soils suited to use as wildlife habitat are in many areas throughout the county. Wildlife habitat can be improved by increasing available food, cover, and water within the home range of each wildlife species.

Soils affect the kind and amount of vegetation that is available to wildlife as food and cover. They also affect the construction of water impoundments. The kind and abundance of wildlife depend largely on the amount and distribution of food, cover, and water. Wildlife habitat can be created or improved by planting appropriate vegetation, by maintaining the existing plant cover, or by promoting the natural establishment of desirable plants.

In table 10, the soils in the survey area are rated according to their potential for providing habitat for various kinds of wildlife. This information can be used in planning parks, wildlife refuges, nature study areas, and other developments for wildlife; in selecting soils that are suitable for establishing, improving, or maintaining specific elements of wildlife habitat; and in determining the intensity of management needed for each element of the habitat.

The potential of the soil is rated good, fair, poor, or very poor. A rating of *good* indicates that the element or kind of habitat is easily established, improved, or maintained. Few or no limitations affect management, and satisfactory results can be expected. A rating of *fair* indicates that the element or kind of habitat can be established, improved, or maintained in most places. Moderately intensive management is required for satisfactory results. A rating of *poor* indicates that limitations are severe for the designated element or kind of habitat. Habitat can be created, improved, or maintained in most places, but management is difficult and must be intensive. A rating of *very poor* indicates that restrictions for the element or kind of habitat are very severe and that unsatisfactory results can be expected. Creating, improving, or maintaining habitat is impractical or impossible.

The elements of wildlife habitat are described in the following paragraphs.

Grain and seed crops are domestic grains and seed-producing herbaceous plants. Soil properties and features that affect the growth of grain and seed crops are depth of the root zone, texture of the surface layer, available water capacity, wetness, slope, surface stoniness, and flood hazard. Soil temperature and soil moisture are also considerations. Examples of grain and seed crops are corn, wheat, oats, barley, winter rye, and millet.

Grasses and legumes are domestic perennial grasses and herbaceous legumes. Soil properties and features that affect the growth of grasses and legumes are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, flood hazard, and slope. Soil temperature and soil moisture are also considerations. Examples of grasses and legumes are fescue, lovegrass, bromegrass, orchardgrass, clover, alfalfa, and birdsfoot trefoil.

Wild herbaceous plants are native or naturally established grasses and forbs, including weeds. Soil properties and features that affect the growth of these plants are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, and flood hazard. Soil temperature and soil moisture are also considerations. Examples of wild herbaceous plants are goldenrod, beggarweed, crabgrass, ragweed, and pokeweed.

Hardwood trees and woody understory produce nuts or other fruit, buds, catkins, twigs, bark, and foliage. Soil properties and features that affect the growth of hardwood trees and shrubs are depth of the root zone, available water capacity, and wetness. Examples of these plants are oak, aspen, cherry, beech, apple, hawthorn, dogwood, hickory, blackberry, and blueberry. Examples of fruit-producing shrubs that are suitable for planting on soils rated *good* are barberry, Tatarian honeysuckle, and crabapple.

Coniferous plants furnish browse and seeds. Soil properties and features that affect the growth of coniferous trees, shrubs, and ground cover are depth of the root zone, available water capacity, and wetness. Examples of coniferous plants are pine, spruce, fir, cedar, juniper, and hemlock.

Wetland plants are annual and perennial wild herbaceous plants that grow on moist or wet sites. Submerged or floating aquatic plants are excluded. Soil properties and features affecting wetland plants are texture of the surface layer, wetness, reaction, salinity, slope, and surface stoniness. Examples of wetland plants are smartweed, wild millet, cattail, pickerel weed, arrowhead, rushes, sedges, and reeds.

Shallow water areas have an average depth of less than 5 feet. Some are naturally wet areas. Others are created by dams, levees, or other water-control structures. Soil properties and features affecting shallow water areas are depth to bedrock, wetness, surface stoniness, slope, and permeability. Examples of shallow water areas are marshes, waterfowl feeding areas, and ponds.

The habitat for various kinds of wildlife is described in the following paragraphs.

Habitat for openland wildlife consists of cropland, pasture, meadows, and areas that are overgrown with grasses, herbs, shrubs, and vines. These areas produce grain and seed crops, grasses and legumes, and wild herbaceous plants. The wildlife attracted to these areas include bluebird, meadowlark, field sparrow, cottontail, and red fox.

Habitat for woodland wildlife consists of areas of deciduous plants or coniferous plants or both and associated grasses, legumes, and wild herbaceous plants. Wildlife attracted to these areas include wild turkey, ruffed grouse, woodcock, thrushes, woodpeckers, squirrels, snowshoe hare, gray fox, raccoon, deer, and bear.

Habitat for wetland wildlife consists of open, marshy or swampy shallow water areas. Some of the wildlife

attracted to such areas are ducks, geese, shore birds, muskrat, mink, beaver, and otter.

Engineering

This section provides information for planning land uses related to urban development and to water management. Soils are rated for various uses, and the most limiting features are identified. The ratings are given in the following tables: Building site development, Sanitary facilities, Construction materials, and Water management. The ratings are based on observed performance of the soils and on the estimated data and test data in the "Soil Properties" section.

Information in this section is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil within a depth of 5 or 6 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.

The information is not site specific and does not eliminate the need for onsite investigation of the soils or for testing and analysis by personnel experienced in the design and construction of engineering works.

Government ordinances and regulations that restrict certain land uses or impose specific design criteria were not considered in preparing the information in this section. Local ordinances and regulations must be considered in planning, in site selection, and in design.

Soil properties, site features, and observed performance were considered in determining the ratings in this section. During the fieldwork for this soil survey, determinations were made about grain-size distribution, liquid limit, plasticity index, soil reaction, depth to bedrock, hardness of bedrock within 5 to 6 feet of the surface, soil wetness, depth to a seasonal high water table, slope, likelihood of flooding, natural soil structure aggregation, and soil density. Data were collected about kinds of clay minerals, mineralogy of the sand and silt fractions, and the kind of adsorbed cations. Estimates were made for erodibility, permeability, corrosivity, shrink-swell potential, available water capacity, and other behavioral characteristics affecting engineering uses.

This information can be used to (1) evaluate the potential of areas for residential, commercial, industrial, and recreation uses; (2) make preliminary estimates of construction conditions; (3) evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; (4) evaluate alternative sites for sanitary landfills, septic tank absorption fields, and sewage lagoons; (5) plan detailed onsite investigations of soils and geology; (6) locate potential sources of gravel, sand, earthfill, and topsoil; (7) plan drainage systems, irrigation systems, ponds, terraces, and other structures for soil and water conservation; and (8) predict performance of proposed small structures and pavements by comparing the performance of existing similar structures on the same or similar soils.

The information in the tables, along with the soil maps, the soil descriptions, and other data provided in this survey can be used to make additional interpretations.

Some of the terms used in this soil survey have a special meaning in soil science and are defined in the Glossary.

Building Site Development

Table 11 shows the degree and kind of soil limitations that affect shallow excavations, dwellings with and without basements, small commercial buildings, local roads and streets, and lawns and landscaping. The limitations are considered *slight* if soil properties and site features are generally favorable for the indicated use and limitations are minor and easily overcome; *moderate* if soil properties or site features are not favorable for the indicated use and special planning, design, or maintenance is needed to overcome or minimize the limitations; and *severe* if soil properties or site features are so unfavorable or so difficult to overcome that special design, significant increases in construction costs, and possibly increased maintenance are required. Special feasibility studies may be required where the soil limitations are severe.

Shallow excavations are trenches or holes dug to a maximum depth of 5 or 6 feet for basements, graves, utility lines, open ditches, and other purposes. The ratings are based on soil properties, site features, and observed performance of the soils. The ease of digging, filling, and compacting is affected by the depth to bedrock, a cemented layer, or a very firm dense layer; stone content; soil texture; and slope. The time of the year that excavations can be made is affected by the depth to a seasonal high water table and the susceptibility of the soil to flooding. The resistance of the excavation walls or banks to sloughing or caving is affected by soil texture and the depth to the water table.

Dwellings and small commercial buildings are structures built on shallow foundations on undisturbed soil. The load limit is the same as that for single-family dwellings no higher than three stories. Ratings are made for small commercial buildings without basements, for dwellings with basements, and for dwellings without basements. The ratings are based on soil properties, site features, and observed performance of the soils. A high water table, flooding, shrink-swell potential, and organic layers can cause the movement of footings. A high water table, depth to bedrock or to a cemented pan, large stones, slope, and flooding affect the ease of excavation and construction. Landscaping and grading that require cuts and fills of more than 5 to 6 feet are not considered.

Local roads and streets have an all-weather surface and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material, a base of gravel, crushed rock, or stabilized soil material, and a flexible or rigid surface. Cuts and fills are generally limited to less than 6 feet. The ratings are based on soil properties, site features, and observed performance of the soils. Depth to bedrock or to a cemented pan, a high water table, flooding, large stones, and slope affect the ease of excavating and grading. Soil strength (as inferred from the engineering classification of the soil), shrink-swell potential, frost-action potential, and depth to a high water table affect the traffic-supporting capacity.

Lawns and landscaping require soils on which turf and ornamental trees and shrubs can be established and maintained. The ratings are based on soil properties, site features, and observed performance of the soils. Soil reaction, a high water table, depth to bedrock or to a cemented pan, the available water capacity in the upper 40 inches, and the content of salts, sodium, and sulfidic materials affect plant growth. Flooding, wetness, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer affect trafficability after vegetation is established.

Sanitary Facilities

Table 12 shows the degree and kind of soil limitations that affect septic tank absorption fields, sewage lagoons, and sanitary landfills. The limitations are considered *slight* if soil properties and site features are generally favorable for the indicated use and limitations are minor and easily overcome; *moderate* if soil properties or site features are not favorable for the indicated use and special planning, design, or maintenance is needed to overcome or minimize the limitations; and *severe* if soil properties or site features are so unfavorable or so difficult to overcome that special design, significant increases in construction costs, and possibly increased maintenance are required.

Table 12 also shows the suitability of the soils for use as daily cover for landfills. A rating of *good* indicates that soil properties and site features are favorable for the use and good performance and low maintenance can be expected; *fair* indicates that soil properties and site features are moderately favorable for the use and one or more soil properties or site features make the soil less desirable than the soils rated good; and *poor* indicates that one or more soil properties or site features are unfavorable for the use and overcoming the unfavorable properties requires special design, extra maintenance, or costly alteration.

Septic tank absorption fields are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. Only that part of the soil between depths of 24 and 72 inches is evaluated. The ratings are based on soil properties, site features, and observed performance of the soils. Permeability, a high water table, depth to bedrock or to a cemented pan, and flooding affect absorption of the effluent. Large stones and bedrock or a cemented pan interfere with installation.

Unsatisfactory performance of septic tank absorption fields, including excessively slow absorption of effluent, surfacing of effluent, and hillside seepage, can affect public health. Ground water can be polluted if highly permeable sand and gravel or fractured bedrock is less than 4 feet below the base of the absorption field, if slope is excessive, or if the water table is near the surface. There must be unsaturated soil material beneath the absorption field to filter the effluent effectively. Many local ordinances require that this material be of a certain thickness.

Sewage lagoons are shallow ponds constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons should have a nearly level floor surrounded by cut slopes or embankments of compacted soil. Lagoons generally are designed to hold the sewage within a depth of 2 to 5 feet. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water.

Table 12 gives ratings for the natural soil that makes up the lagoon floor. The surface layer and, generally, 1 or 2 feet of soil material below the surface layer are excavated to provide material for the embankments. The ratings are based on soil properties, site features, and observed performance of the soils. Considered in the ratings are slope, permeability, a high water table, depth to bedrock or to a cemented pan, flooding, large stones, and content of organic matter.

Excessive seepage due to rapid permeability of the soil or a water table that is high enough to raise the level of sewage in the lagoon causes a lagoon to function unsatisfactorily. Pollution results if seepage is excessive or if floodwater overtops the lagoon. A high content of organic matter is detrimental to proper functioning of the lagoon because it inhibits aerobic activity. Slope, bedrock, and cemented pans can cause construction problems, and large stones can hinder compaction of the lagoon floor.

Sanitary landfills are areas where solid waste is disposed of by burying it in soil. There are two types of landfill—trench and area. In a trench landfill, the waste is placed in a trench. It is spread, compacted, and covered daily with a thin layer of soil excavated at the site. In an area landfill, the waste is placed in successive layers on the surface of the soil. The waste is spread, compacted, and covered daily with a thin layer of soil from a source away from the site.

Both types of landfill must be able to bear heavy vehicular traffic. Both types involve a risk of ground water pollution. Ease of excavation and revegetation needs to be considered.

The ratings in table 12 are based on soil properties, site features, and observed performance of the soils. Permeability, depth to bedrock or to a cemented pan, a high water table, slope, and flooding affect both types of landfill. Texture, stones and boulders, highly organic layers, soil reaction, and content of salts and sodium affect trench type landfills. Unless otherwise stated, the ratings apply only to that part of the soil within a depth of about 6 feet. For deeper trenches, a limitation rated slight or moderate may not be valid. Onsite investigation is needed.

Daily cover for landfill is the soil material that is used to cover compacted solid waste in an area type sanitary landfill. The soil material is obtained offsite, transported to the landfill, and spread over the waste.

Soil texture, wetness, coarse fragments, and slope affect the ease of removing and spreading the material during wet and dry periods. Loamy or silty soils that are free of large stones or excess gravel are the best cover for a landfill. Clayey soils are sticky or cloddy and are difficult to spread; sandy soils are subject to soil blowing.

After soil material has been removed, the soil material remaining in the borrow area must be thick enough over bedrock, a cemented pan, or the water table to permit revegetation. The soil material used as final cover for a landfill should be suitable for plants. The surface layer generally has the best workability, more organic matter, and the best potential for plant growth. Material from the surface layer, therefore, should be stockpiled for use as the final cover.

Construction Materials

Table 13 gives information about the soils as a source of roadfill, sand, gravel, and topsoil. The soils are rated *good, fair,* or *poor* as a source of roadfill and topsoil. They are rated as a *probable* or *improbable* source of sand and gravel. The ratings are based on soil properties and site features that affect the removal of the soil and its use as construction material. Normal compaction, minor processing, and other standard construction practices are assumed. Each soil is evaluated to a depth of 5 or 6 feet.

Roadfill is soil material that is excavated in one place and used in road embankments in another place. In this table, the soils are rated as a source of roadfill for low embankments, generally less than 6 feet high and less exacting in design than higher embankments.

The ratings are for the soil material below the surface layer to a depth of 5 or 6 feet. It is assumed that soil layers will be mixed during excavating and spreading. Many soils have layers of contrasting suitability within their profile. The table showing engineering index properties provides detailed information about each soil layer. This information can help determine the suitability of each layer for use as roadfill. The performance of soil after it is stabilized with lime or cement is not considered in the ratings.

The ratings are based on soil properties, site features, and observed performance of the soils. The thickness of suitable material is a major consideration. The ease of excavation is affected by large stones, a high water table, and slope. How well the soil performs in place after it has been compacted and drained is determined by its strength (as inferred from the engineering classification of the soil) and shrink-swell potential.

Soils rated *good* contain significant amounts of sand or gravel or both. They have at least 5 feet of suitable material, low shrink-swell potential, few cobbles and stones, and slopes of 15 percent or less. Depth to the water table is more than 3 feet. Soils rated *fair* are more than 35 percent silt- and clay-sized particles and have a plasticity index of less than 10. They have moderate shrink-swell potential, slopes of 15 to 25 percent, or many stones. Depth to the water table is 1 to 3 feet. Soils rated *poor* have a plasticity index of more than 10, a high shrink-swell potential, many stones, or slopes of more than 25 percent. They are wet, and the depth to the water table is less than 1 foot. They may have layers of suitable material, but the material is less than 3 feet thick.

Sand and gravel are natural aggregates suitable for commercial use with a minimum of processing. Sand and gravel are used in many kinds of construction. Specifications for each use vary widely. In table 13, only the probability of finding material in suitable quantity is evaluated. The suitability of the material for specific purposes is not evaluated, nor are factors that affect excavation of the material.

The properties used to evaluate the soil as a source of sand or gravel are gradation of grain sizes (as indicated by the engineering classification of the soil), the thickness of suitable material, and the content of rock fragments. Kinds of rock, acidity, and stratification are given in the soil series descriptions. Gradation of grain sizes is given in the table on engineering index properties.

A soil rated as a probable source has a layer of clean sand or gravel or a layer of sand or gravel that is up to 12 percent silty fines. This material must be at least 3 feet thick and less than 50 percent, by weight, large stones. All other soils are rated as an improbable source. Coarse fragments of soft bedrock, such as shale and siltstone, are not considered to be sand and gravel.

Topsoil is used to cover an area so that vegetation can be established and maintained. The upper 40 inches of a soil is evaluated for use as topsoil. Also evaluated is the reclamation potential of the borrow area.

Plant growth is affected by toxic material and by such properties as soil reaction, available water capacity, and fertility. The ease of excavating, loading, and spreading is affected by rock fragments, slope, a water table, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, a water table, rock fragments, bedrock, and toxic material.

Soils rated *good* have friable loamy material to a depth of at least 40 inches. They are free of stones and cobbles, have little or no gravel, and have slopes of less than 8 percent. They are low in content of soluble salts, are naturally fertile or respond well to fertilizer, and are not so wet that excavation is difficult.

Soils rated *fair* are sandy soils, loamy soils that have a relatively high content of clay, soils that have only 20 to 40 inches of suitable material, soils that have an appreciable amount of gravel, stones, or soluble salts, or soils that have slopes of 8 to 15 percent. The soils are not so wet that excavation is difficult.

Soils rated *poor* are very sandy or clayey, have less than 20 inches of suitable material, have a large amount of gravel, stones, or soluble salts, have slopes of more than 15 percent, or have a seasonal water table at or near the surface.

The surface layer of most soils is generally preferred for topsoil because of its organic matter content. Organic matter greatly increases the absorption and retention of moisture and nutrients for plant growth.

Water Management

Table 14 gives information on the soil properties and site features that affect water management. The degree and kind of soil limitations are given for pond reservoir areas; embankments, dikes, and levees; and aquifer-fed excavated ponds. The limitations are considered *slight* if soil properties and site features are generally favorable for the indicated use and limitations are minor and are easily overcome; *moderate* if soil properties or site features are not favorable for the indicated use and special planning, design, or maintenance is needed to overcome or minimize the limitations; and *severe* if soil properties or site features are so unfavorable or so difficult to overcome that special design, significant increase in construction costs, and possibly increased maintenance are required.

This table also gives for each soil the restrictive features that affect drainage, terraces and diversions, and grassed waterways.

Pond reservoir areas hold water behind a dam or embankment. Soils best suited to this use have low seepage potential in the upper 60 inches. The seepage potential is determined by the permeability of the soil and the depth to fractured bedrock or other permeable material. Excessive slope can affect the storage capacity of the reservoir area.

Embankments, dikes, and levees are raised structures of soil material, generally less than 20 feet high, constructed to impound water or to protect land against overflow. In this table, the soils are rated as a source of material for embankment fill. The ratings apply to the soil material below the surface layer to a depth of about 5 feet. It is assumed that soil layers will be uniformly mixed and compacted during construction.

The ratings do not indicate the ability of the natural soil to support an embankment. Soil properties to a depth even greater than the height of the embankment can affect performance and safety of the embankment. Generally, deeper onsite investigation is needed to determine these properties.

Soil material in embankments must be resistant to seepage, piping, and erosion and have favorable compaction characteristics. Unfavorable features include less than 5 feet of suitable material and a high content of stones or boulders, organic matter, or salts or sodium. A high water table affects the amount of usable material. It also affects trafficability.

Drainage is the removal of excess surface and subsurface water from the soil. How easily and effectively the soil is drained depends on the depth to bedrock, to a cemented pan, or to other layers that affect the rate of water movement; permeability; depth to a high water table or depth of standing water if the soil is subject to ponding; slope; susceptibility to flooding; subsidence of organic layers; and potential frost action. Excavating and grading and the stability of ditchbanks are affected by depth to bedrock or to a cemented pan, large stones, slope, and the hazard of cutbanks caving. The productivity of the soil after drainage is adversely affected by extreme acidity or by toxic substances in the root zone, such as salts, sodium, or sulfur. Availability of drainage outlets is not considered in the ratings.

Terraces and diversions are embankments or a combination of channels and ridges constructed across a slope to reduce erosion and conserve moisture by intercepting runoff. Slope, wetness, large stones, and depth to bedrock or to a cemented pan affect the construction of terraces and diversions. A restricted rooting depth, a severe hazard of wind or water erosion, an excessively coarse texture, and restricted permeability adversely affect maintenance.

Grassed waterways are natural or constructed channels, generally broad and shallow, that conduct surface water to outlets at a nonerosive velocity. Large stones, wetness, slope, and depth to bedrock or to a cemented pan affect the construction of grassed waterways. A hazard of wind erosion, low available water capacity, restricted rooting depth, toxic substances such as salts or sodium, and restricted permeability adversely affect the growth and maintenance of the grass after construction.

Soil Properties

Data relating to soil properties are collected during the course of the soil survey. The data and the estimates of soil and water features, listed in tables, are explained on the following pages.

Soil properties are determined by field examination of the soils and by laboratory index testing of some benchmark soils. Established standard procedures are followed. During the survey, many shallow borings are made and examined to identify and classify the soils and to delineate them on the soil maps. Samples are taken from some typical profiles and tested in the laboratory to determine grain-size distribution, plasticity, and compaction characteristics.

Estimates of soil properties are based on field examinations, on laboratory tests of samples from the survey area, and on laboratory tests of samples of similar soils in nearby areas. Tests verify field observations, verify properties that cannot be estimated accurately by field observation, and help characterize key soils.

The estimates of soil properties shown in the tables include the range of grain-size distribution and Atterberg limits, the engineering classifications, and the physical and chemical properties of the major layers of each soil. Pertinent soil and water features also are given.

Engineering Index Properties

Table 15 gives estimates of the engineering classification and of the range of index properties for the major layers of each soil in the survey area. Most soils have layers of contrasting properties within the upper 5 or 6 feet.

Depth to the upper and lower boundaries of each layer is indicated. The range in depth and information on other properties of each layer are given for each soil series under "Soil Series and Their Morphology."

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is as much as about 15 percent, an appropriate modifier is added, for example, "gravelly." Textural terms are defined in the Glossary.

Classification of the soils is determined according to the Unified soil classification system (*2*) and the system adopted by the American Association of State Highway and Transportation Officials (*1*).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to grain-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as Pt. Soils exhibiting engineering properties of two groups can have a dual classification, for example, SP-SM.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of grain-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

Rock fragments larger than 3 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage.

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an ovendry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

Liquid limit and *plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination.

The estimates of grain-size distribution, liquid limit, and plasticity index are generally rounded to the nearest 5 percent. Thus, if the ranges of gradation and Atterberg limits extend a marginal amount (1 or 2 percentage

points) across classification boundaries, the classification in the marginal zone is omitted in the table.

Physical and Chemical Properties

Table 16 shows estimates of some characteristics and features that affect soil behavior. These estimates are given for the major layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In this table, the estimated clay content of each major soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The amount and kind of clay greatly affect the fertility and physical condition of the soil. They determine the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, permeability, and plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

Moist bulk density is the weight of soil (ovendry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at 1/3 bar moisture tension. Weight is determined after drying the soil at 105 degrees C. In this table, the estimated moist bulk density of each major soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. A bulk density of more than 1.6 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

Permeability refers to the ability of a soil to transmit water or air. The estimates indicate the rate of downward movement of water when the soil is saturated. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Permeability is considered in the design of soil drainage systems, septic tank absorption fields, and construction where the rate of water movement under saturated conditions affects behavior.

Available water capacity refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each major soil layer. The capacity varies, depending on soil properties that affect the retention of water and the depth of the root zone. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

Soil reaction is a measure of acidity or alkalinity and is expressed as a range in pH values. The range in pH of each major horizon is based on many field tests. For many soils, values have been verified by laboratory analyses. Soil reaction is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

Shrink-swell potential is the potential for volume change in a soil with a loss or gain in moisture. Volume change occurs mainly because of the interaction of clay minerals with water and varies with the amount and type of clay minerals in the soil. The size of the load on the soil and the magnitude of the change in soil moisture content influence the amount of swelling of soils in place. Laboratory measurements of swelling of undisturbed clods were made for many soils. For others, swelling was estimated on the basis of the kind and amount of clay minerals in the soil and on measurements of similar soils.

If the shrink-swell potential is rated moderate to very high, shrinking and swelling can cause damage to buildings, roads, and other structures. Special design is often needed.

Shrink-swell potential classes are based on the change in length of an unconfined clod as moisture content is increased from air-dry to field capacity. The change is based on the soil fraction less than 2 millimeters in diameter. The classes are *low*, a change of less than 3 percent; *moderate*, 3 to 6 percent; and *high*, more than 6 percent. *Very high*, greater than 9 percent, is sometimes used.

Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter (up to 4 percent) and on soil structure and permeability. Values of K range from 0.05 to 0.69. The higher the value, the more susceptible the soil is to sheet and rill erosion by water.

Erosion factor T is an estimate of the maximum average annual rate of soil erosion by wind or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In table 16, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of organic matter of a soil can be maintained or increased by returning crop residue to the soil. Organic matter affects the available water capacity,

infiltration rate, and tilth. It is a source of nitrogen and other nutrients for crops.

Soil and Water Features

Table 17 gives estimates of various soil and water features. The estimates are used in land use planning that involves engineering considerations.

Hydrologic soil groups are used to estimate runoff from precipitation. Soils not protected by vegetation are assigned to one of four groups. They are grouped according to the intake of water when the soils are thoroughly wet and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a permanent high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

Some soils in table 17 are assigned to two hydrologic soil groups. Dual grouping is used for one of two reasons: (1) Some soils have a seasonal high water table but can be drained. In this instance the first letter applies to the drained condition of the soil and the second letter to the undrained condition. (2) In some soils that are less than 20 inches deep to bedrock, the first letter applies to areas where the bedrock is cracked and pervious and the second letter to areas where the bedrock is impervious or where exposed bedrock makes up more than 25 percent of the surface of the soil.

Flooding, the temporary covering of the soil surface by flowing water, is caused by overflowing streams, by runoff from adjacent slopes, or by inflow from high tides. Shallow water standing or flowing for short periods after rainfall or snowmelt is not considered flooding. Standing water in swamps and marshes or in a closed depression is considered ponding.

Table 17 gives the frequency and duration of flooding and the time of year when flooding is most likely to occur.

Frequency, duration, and probable period of occurrence are estimated. Frequency generally is expressed as *none, rare, occasional, common,* or *frequent. None* means that flooding is not probable. *Rare* means that flooding is unlikely but possible under unusual weather conditions (there is a near 0 to 5 percent chance of flooding in any year). *Occasional* means that flooding occurs infrequently under normal weather conditions (there is a 5 to 50 percent chance of flooding in any year). *Frequent* means that flooding occurs often under normal weather conditions (there is more than a 50 percent chance of flooding in any year). *Common* is used when classification as occasional or frequent does not affect interpretations. Duration is expressed as *very brief* (less than 2 days), *brief* (2 to 7 days), *long* (7 days to 1 month), and *very long* (more than 1 month). The time of year that floods are most likely to occur is expressed in months. November-May, for example, means that flooding can occur during the period November through May. About two-thirds to three-fourths of all flooding occurs during the stated period.

The information on flooding is based on evidence in the soil profile, namely, thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and absence of distinctive horizons, which are characteristic of soils that are not subject to flooding.

Also considered are local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

High water table (seasonal) is the highest level of a saturated zone in the soil in most years. The depth to a seasonal high water table applies to undrained soils. The estimates are based mainly on the evidence of a saturated zone, namely, grayish colors or mottles in the soil. Indicated in table 17 are the depth to the seasonal high water table; the kind of water table, that is, *perched,* or *apparent;* and the months of the year that the water table commonly is highest. A water table that is seasonally high for less than 1 month is not indicated in table 17.

An *apparent* water table is a thick zone of free water in the soil. It is indicated by the level at which water stands in an uncased borehole after adequate time is allowed for adjustment in the surrounding soil. A *perched* water table is water standing above an unsaturated zone. In places an upper, or perched, water table is separated from a lower one by a dry zone.

The two numbers in the "High water table-Depth" column indicate the normal range in depth to a saturated

zone. Depth is given to the nearest half foot. The first numeral in the range indicates the highest water level. A plus sign preceding the range in depth indicates that the water table is above the surface of the soil. "More than 6.0" indicates that the water table is below a depth of 6 feet or that the water table exists for less than a month.

Depth to bedrock is given if bedrock is within a depth of 5 feet. The depth is based on many soil borings and on observations during soil mapping. The rock is specified as either soft or hard. If the rock is soft or fractured, excavations can be made with trenching machines, backhoes, or small rippers. If the rock is hard or massive, blasting or special equipment generally is needed for excavation.

Potential frost action is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, permeability, content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured clayey soils that have a high water table in winter are the most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage mainly to pavements and other rigid structures.

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that dissolves or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors creates a severe corrosion environment. The steel in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than steel in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as *low*, *moderate*, or *high*, is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion is also expressed as *low*, *moderate*, or *high*. It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories (*7*). Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. Classification is based on soil properties observed in the field or inferred from those observations or from laboratory measurements. Table 18 shows the classification of the soils in the survey area. The categories are defined in the following paragraphs.

ORDER. Ten soil orders are recognized. The differences among orders reflect the dominant soil-forming processes and the degree of soil formation. Each order is identified by a word ending in *sol*. An example is Spodosol.

SUBORDER. Each order is divided into suborders primarily on the basis of properties that influence soil genesis and are important to plant growth or properties that reflect the most important variables within the orders. The last syllable in the name of a suborder indicates the order. An example is Aquod (*Aqu*, meaning water, plus *od*, from Spodosol).

GREAT GROUP. Each suborder is divided into great groups on the basis of close similarities in kind, arrangement, and degree of development of pedogenic horizons; soil moisture and temperature regimes; and base status. Each great group is identified by the name of a suborder and by a prefix that indicates a property of the soil. An example is Haplaquod (*Hapl*, meaning minimal horizonation, plus *aquod*, the suborder of the Spodosols that have an aquic moisture regime).

SUBGROUP. Each great group has a typic subgroup. Other subgroups are intergrades or extragrades. The typic is the central concept of the great group; it is not necessarily the most extensive. Intergrades are transitions to other orders, suborders, or great groups. Extragrades have some properties that are not representative of the great group but do not indicate transitions to any other known kind of soil. Each subgroup is identified by one or more adjectives preceding the name of the great group. The adjective *Typic* identifies the subgroup that typifies the great group. An example is Typic Haplaquods.

FAMILY. Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Mostly the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle-size class, mineral content, temperature regime, depth of the root zone, consistence, moisture equivalent, slope, and permanent cracks. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is coarse-loamy, mixed, frigid Typic Haplaquods.

SERIES. The series consists of soils that have similar horizons in their profile. The horizons are similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile. The texture of the surface layer or of the substratum can differ within a series. The Wilmington series is an example.

Soil Series and Their Morphology

In this section, each soil series recognized in the survey area is described. The descriptions are arranged in alphabetic order.

Characteristics of the soil and the material in which it formed are identified for each series. The soil is compared with similar soils and with nearby soils of other series. A pedon, a small three-dimensional area of soil, that is typical of the series in the survey area is described. The detailed description of each soil horizon follows standards in the *Soil Survey Manual* (*4*). Many of the technical terms used in the descriptions are defined in *Soil Taxonomy* (*7*). Unless otherwise stated, colors in the descriptions are for moist soil. Following the pedon description is the range of important characteristics of the soils in the series.

The map units of each soil series are described in the section "Detailed Soil Map Units."

Adams Series

The Adams series consists of very deep, well drained to excessively drained soils on stream terraces and in other outwash areas. These soils formed in sandy glaciofluvial deposits. Slope ranges from 2 to 50 percent.

Adams soils in most places are near Colton, Monadnock, and Sheepscot soils. Adams soils have less rock fragments throughout the profile, by volume, than the excessively drained Colton soils, the well drained Monadnock soils, and the moderately well drained

Sheepscot soils. They also have a coarser textured solum than the Monadnock and Sheepscot soils.

Typical pedon of Adams loamy fine sand, 2 to 8 percent slopes, in the town of Windham, 250 feet southeast of Vermont Route 11 and 3,000 feet south of the Windsor County line:

Oi—1 inch to 0; slightly decomposed leaves, grass, and twigs.
A—0 to 2 inches; very dark grayish brown (10YR 3/2) loamy fine sand; weak fine granular structure; very friable; many roots; 5 percent rock fragments; strongly acid; abrupt wavy boundary.
Bh—2 to 6 inches; dark reddish brown (5YR 2/2) loamy fine sand; weak fine granular structure; very friable; many roots; 5 percent rock fragments; strongly acid; gradual wavy boundary.
Bs1—6 to 10 inches; reddish brown (5YR 4/4) loamy fine sand; weak fine granular structure; very friable; many roots; 5 percent rock fragments; strongly acid; gradual wavy boundary.
Bs2—10 to 21 inches; dark yellowish brown (10YR 4/4) loamy fine sand; weak fine granular structure; friable; many roots; 5 percent rock fragments; strongly acid; gradual wavy boundary.
C1—21 to 47 inches; grayish brown (10YR 5/2) sand; single grain; loose; few roots; 5 percent rock fragments; moderately acid; abrupt smooth boundary.
C2—47 to 60 inches; grayish brown (2.5Y 5/2) sand; single grain; loose; moderately acid.

Depth to bedrock is more than 60 inches. The solum ranges from 16 to 30 inches in thickness. The content of rock fragments ranges from 0 to 5 percent in the upper part of the profile and from 0 to 20 percent in the lower part. Reaction is very strongly acid or strongly acid in the solum and ranges from very strongly acid to moderately acid in the substratum.

The A horizon has hue of 5YR to 10YR, value of 2 or 3, and chroma of 1 to 3. Cultivated areas have an Ap horizon.

Some pedons have an E horizon that is loamy fine sand and that has hue of 10YR, value of 6 or 7, and chroma of 1 or 2.

The Bh horizon has hue of 5YR or 7.5YR, value of 2 or 3, and chroma of 1 or 2. The Bs horizon has hue of 2.5YR to 10YR, value of 4 or 5, and chroma of 4 to 6. Some pedons have a Bhs horizon. The B horizon is sand, loamy sand, fine sand, or loamy fine sand.

The C horizon has hue of 10YR or 2.5Y, value of 5, and chroma of 2. It is sand or coarse sand.

Agawam Series

The Agawam series consists of very deep, well drained soils on stream terraces and in other outwash areas. These soils formed in loamy glacial drift underlain by sandy glaciofluvial deposits. Slope ranges from 0 to 8 percent.

Agawam soils, in most places, are near Belgrade, Quonset, Unadilla, Walpole, Warwick, and Windsor soils. Agawam soils have less silt in the solum than the well drained Unadilla soils and the moderately well drained Belgrade soils. Agawam soils have a finer textured solum than the excessively drained Quonset and Windsor soils. Agawam soils have browner color overall in the subsoil than Walpole soils; unlike Agawam soils, Walpole soils have mottles in the subsoil. Agawam soils have less rock fragments in the solum, by volume, than the somewhat excessively drained Warwick soils.

Typical pedon of Agawam very fine sandy loam, 0 to 3 percent slopes, in the town of Vernon, 250 feet east of Vermont Route 142 and 5,000 feet north of the intersection of Tyler Hill Road and Vermont Route 142:

Ap—0 to 10 inches; dark brown (10YR 3/3) very fine sandy loam, light brownish gray (2.5Y 6/2) dry; weak fine subangular blocky structure; very friable; many roots; neutral; abrupt smooth boundary.
Bw1—10 to 17 inches; dark yellowish brown (10YR 4/4) very fine sandy loam; weak fine subangular blocky structure; very friable; many roots; slightly acid; gradual smooth boundary.
Bw2—17 to 25 inches; olive brown (2.5Y 4/4) very fine sandy loam; weak fine subangular blocky structure; very friable; many roots; slightly acid; abrupt smooth boundary.
2C1—25 to 36 inches; olive (5Y 4/3) fine sand; single grain; loose; few roots; slightly acid; abrupt smooth boundary.
2C2—36 to 60 inches; olive (5Y 5/3) and very dark grayish brown (2.5Y 3/2) fine sand; single grain; loose; slightly acid.

Depth to bedrock is more than 60 inches. The solum ranges from 20 to 35 inches in thickness. The content of rock fragments ranges from 0 to 10 percent in the solum and from 0 to 35 percent in the substratum. The soil ranges from strongly acid to neutral.

The Ap horizon has hue of 10YR, value of 3 or 4, and chroma of 2 or 3. It is fine sandy loam or very fine sandy loam.

The Bw1 horizon has hue of 10YR, value of 4 or 5, and chroma of 3 to 6. The Bw2 horizon has hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 4 to 6. The B horizon is very fine sandy loam or fine sandy loam.

The 2C horizon has hue of 2.5Y or 5Y, value of 4 to 6, and chroma of 2 to 4. It is fine sand, sand, coarse sand, or their gravelly analogs.

Belgrade Series

The Belgrade series consists of very deep, moderately well drained soils on terraces, along stream valleys, and

on glacial lake plains. These soils formed in loamy glaciolacustrine or glaciofluvial deposits. Slope ranges from 0 to 3 percent.

Belgrade soils in most places are near Agawam, Deerfield, Unadilla, and Walpole soils. Unlike the well drained Agawam and Unadilla soils, Belgrade soils have grayish colored mottles in the subsoil. Belgrade soils are finer textured than the moderately well drained Deerfield soils. Belgrade soils have browner color overall than the poorly drained Walpole soils.

Typical pedon of Belgrade silt loam, 0 to 3 percent slopes, in the town of Vernon, 670 feet southeast of the intersection of Vermont Route 142 and Tyler Hill Road and 50 feet east of Vermont Route 142:

Ap—0 to 8 inches; very dark grayish brown (10YR 3/2) silt loam, light brownish gray (10YR 6/2) dry; weak fine granular structure; friable; many roots; neutral; abrupt smooth boundary.

Bw1—8 to 14 inches; dark yellowish brown (10YR 4/4) silt loam; weak medium subangular blocky structure; friable; many roots; neutral; clear wavy boundary.

Bw2—14 to 17 inches; olive brown (2.5Y 4/4) silt loam; weak medium subangular blocky structure; friable; many roots; neutral; clear wavy boundary.

Bw3—17 to 26 inches; light olive brown (2.5Y 5/4) silt loam; many coarse prominent olive gray (5Y 5/2) and common medium distinct dark brown (10YR 3/3) mottles; weak medium subangular blocky structure; friable; neutral; clear wavy boundary.

C1—26 to 44 inches; olive (5Y 5/3) silt loam; common coarse distinct gray (5Y 6/1) and common medium prominent dark yellowish brown (10YR 4/4) mottles; massive; friable; neutral; gradual wavy boundary.

C2—44 to 60 inches; olive (5Y 4/3) very fine sandy loam; common coarse distinct gray (5Y 5/1) mottles; massive; friable; neutral.

Depth to bedrock is more than 60 inches. The solum ranges from 20 to 30 inches in thickness. The content of rock fragments ranges from 0 to 5 percent in the solum and from 0 to 15 percent in the substratum. Reaction ranges from moderately acid to neutral throughout.

The Ap horizon has hue of 10YR, value of 3 or 4, and chroma of 2 or 3. It is silt loam or very fine sandy loam.

The Bw horizon has hue of 10YR, or 2.5Y, value of 4 or 5, and chroma of 4 to 6. It is silt loam or very fine sandy loam.

The C horizon has hue of 10YR, 2.5Y, or 5Y, value of 4 or 5, and chroma of 1 to 4. It is silt loam or very fine sandy loam.

Berkshire Series

The Berkshire series consists of very deep, well drained soils on hills and mountains. These soils formed in loamy glacial till derived mainly from schist, phyllite, granite, or gneiss. Slope ranges from 3 to 50 percent.

Berkshire soils in most places are near Lyman, Marlow, Monadnock, Tunbridge, and Westbury soils. Lyman soils are shallow and somewhat excessively drained. Tunbridge soils are moderately deep and well drained. Unlike Berkshire soils, the well drained Marlow soils have a dense compact substratum. Unlike Berkshire soils, the well drained Monadnock soils have a coarse textured substratum. Unlike Berkshire soils, the somewhat poorly drained Westbury soils have a mottled subsoil and a dense substratum.

Typical pedon of Berkshire fine sandy loam, in an area of Berkshire and Monadnock fine sandy loams, 25 to 50 percent slopes, very stony, in the town of Newfane, 250 feet southeast of the road junction at the west end of the Kenny Pond and 100 feet south of Newfane Hill Road:

Oi1—2 inches to 1 inch; undecomposed litter of leaves, needles, and twigs.

Oi2—1 inch to 0; slightly decomposed litter.

A—0 to 2 inches; very dark grayish brown (10YR 3/2) fine sandy loam; weak fine granular structure; very friable; many roots; 10 percent rock fragments; strongly acid; abrupt wavy boundary.

Bs1—2 to 7 inches; dark brown (7.5YR 4/4) fine sandy loam; weak fine subangular blocky structure; friable; many roots; 15 percent rock fragments; weakly smeary; strongly acid; clear wavy boundary.

Bs2—7 to 14 inches; dark yellowish brown (10YR 4/4) fine sandy loam; weak fine subangular blocky structure; friable; many roots; 10 percent rock fragments; weakly smeary; strongly acid; clear wavy boundary.

Bw—14 to 23 inches; olive brown (2.5Y 4/4) fine sandy loam; weak fine subangular blocky structure; friable; common roots; 10 percent rock fragments; moderately acid; abrupt wavy boundary.

C—23 to 60 inches; olive (5Y 4/3) gravelly fine sandy loam; massive; friable; few roots; 20 percent rock fragments; moderately acid.

Depth to bedrock is more than 60 inches. The solum ranges from 16 to 36 inches in thickness. The content of rock fragments ranges from 10 to 35 percent throughout. Reaction ranges from extremely acid to moderately acid throughout.

The A horizon has hue of 10YR, value of 2 or 3, and chroma of 1 or 2. It is fine sandy loam or loam. In cultivated areas pedons have an Ap horizon.

Some pedons have an E horizon that has hue of 5YR, 7.5YR, or 10YR, value of 4 to 6, and chroma of 1 or 2. It is fine sandy loam or loam.

The Bs horizon has hue of 5YR, 7.5YR, or 10YR, value of 4 or 5, and chroma of 4 to 6. The Bw horizon has hue of 10YR, 2.5Y, or 5Y, value of 3 to 5, and chroma of 2 to 4. Some pedons have a Bh or Bhs horizon that has hue of 2.5YR, 5YR, 7.5YR, or 10YR,

value of 2 or 3, and chroma of 2 to 6. The B horizon is fine sandy loam, loam, or their gravelly analogs. Some pedons do not have a Bw horizon. The combined thickness of the Bh, Bhs, and Bs horizon is 16 inches or less.

The C horizon has hue of 10YR, 2.5Y, or 5Y, value of 3 to 5, and chroma of 2 to 4. It is sandy loam, fine sandy loam, loam, or their gravelly analogs.

Brayton Series

The Brayton series consists of very deep, poorly drained soils in upland areas. These soils formed in compact, loamy glacial till derived mainly from slate, shale phyllite, or schist. Slope ranges from 2 to 8 percent.

Brayton soils in most places are near Dummerston, Fullam, Lupton, Macomber, Markey, and Taconic soils. Brayton soils have a grayer color overall in the subsoil than the well drained Dummerston soils and the somewhat poorly drained Fullam soils. They have a grayer color overall and are deeper than the well drained, moderately deep Macomber soils and the somewhat excessively drained, shallow Taconic soils. Unlike Brayton soils, the very poorly drained Lupton and Markey soils have organic layers.

Typical pedon of Brayton silt loam, in an area of Brayton silt loam, 2 to 8 percent slopes, very stony, in the town of Vernon, 3,800 feet south of Tyler Hill Road and 50 feet southeast of Lillis Pasture Road:

Oi—1 inch to 0; undecomposed litter of leaves, needles, and twigs.

A—0 to 4 inches; very dark brown (10YR 2/2) silt loam, light brownish gray (10YR 6/2) dry; weak medium subangular blocky structure; friable; many roots; 10 percent rock fragments; strongly acid; abrupt smooth boundary.

Bw—4 to 9 inches; olive (5Y 4/3) silt loam; common medium distinct dark grayish brown (2.5Y 4/2) and many medium prominent dark brown (7.5YR 4/4) mottles; weak fine and medium subangular blocky structure; friable; common roots; 14 percent rock fragments; strongly acid; gradual wavy boundary.

Bg—9 to 17 inches; olive gray (5Y 4/2) silt loam; common fine prominent dark brown (7.5YR 4/4) and common medium faint olive (5Y 4/3) mottles; massive; friable; common roots; 14 percent rock fragments; strongly acid; abrupt smooth boundary.

Crg—17 to 38 inches; dark gray (5Y 4/1) channery silt loam; common medium prominent olive brown (2.5Y 4/4) and dark brown (7.5YR 4/4) mottles; massive; very firm; 25 percent rock fragments; moderately acid; gradual smooth boundary.

CR—38 to 60 inches; olive (5Y 4/3) channery loam; many coarse distinct dark gray (6Y 4/1) mottles; massive; firm; 30 percent rock fragments; moderately acid.

Depth to bedrock is more than 60 inches. The solum ranges from 15 to 25 inches in thickness. The content of rock fragments ranges from 5 to 25 percent in the solum and from 15 to 35 percent in the substratum. Reaction is strongly acid or moderately acid throughout.

The A horizon has hue of 10YR or 2.5Y, value of 2 or 3, and chroma of 1 or 2. It is very fine sandy loam, loam, silt loam, fine sandy loam, or their channery analogs.

The B horizon has hue of 10YR, 2.5Y, or 5Y, value of 4 or 5, and chroma of 1 to 4. It is very fine sandy loam, loam, silt loam, fine sandy loam, or their channery analogs.

The C horizon has hue of 2.5Y or 5Y, value of 3 to 5, and chroma of 1 to 3. It is very fine sandy loam, loam, silt loam, fine sandy loam, or their channery analogs.

Colton Series

The Colton series consists of very deep, excessively drained soils on stream terraces and in other outwash areas. These soils formed in sandy, gravelly, and cobbly glaciofluvial deposits. Slope ranges from 2 to 60 percent.

Colton soils in most places are near Adams, Monadnock, and Sheepscot soils. Colton soils have more rock fragments throughout, by volume, than Adams soils. Colton soils have a coarser textured subsoil than the well drained Monadnock soils. Unlike Colton soils, the moderately well drained Sheepscot soils have mottles in the subsoil.

Typical pedon of Colton loamy fine sand, 25 to 60 percent slopes, in the town of Jamaica, 600 feet north of Forester Road and 600 feet northwest of the junction of Forester Road and Stratton Mountain Road:

Oi1—4 to 2 inches; undecomposed litter of needles and twigs.

Oi2—2 inches to 0; slightly decomposed needles and twigs.

A—0 to 1 inch; black (10YR 2/1) loamy fine sand; weak fine granular structure; very friable; many roots; 10 percent rock fragments; very strongly acid; abrupt wavy boundary.

E—1 to 4 inches; brown (7.5YR 5/2) loamy fine sand; weak fine granular; very friable; many roots; 10 percent rock fragments; very strongly acid; abrupt wavy boundary.

Bh—4 to 7 inches; dark brown (7.5YR 3/2) loamy sand; weak medium granular structure; very friable; many roots; 10 percent rock fragments; very strongly acid; clear irregular boundary.

Bhs1—7 to 11 inches; dark red (2.5YR 3/6) and red (2.5YR 4/8) gravelly loamy sand; weak very fine granular structure; friable; many roots; 20 percent rock fragments; very strongly acid; clear irregular boundary.

Bhs2—11to 17 inches; dark red (2.5YR 3/6) and yellowish red (5YR 4/6) very gravelly loamy coarse

sand; moderate medium granular structure; friable; common roots; 35 percent rock fragments; strongly acid; clear irregular boundary.

BC—17 to 31 inches; strong brown (7.5YR 5/6) gravelly coarse sand; single grain; loose; common roots; 30 percent rock fragments; strongly acid; gradual wavy boundary.

2C1—31 to 46 inches; yellowish brown (10YR 5/4) very gravelly coarse sand; single grain; loose; common roots; 55 percent coarse fragments; strongly acid; gradual wavy boundary.

2C2—46 to 60 inches; light olive brown (2.5YR 5/4) very cobbly coarse sand; single grain; loose; 50 percent rock fragments; strongly acid.

Depth to bedrock is more than 60 inches. The solum ranges from 18 to 36 inches in thickness. The content of rock fragments ranges from 10 to 55 percent in the solum and from 35 to 70 percent in the substratum. Reaction is very strongly acid or strongly acid in the solum and strongly acid or moderately acid in the substratum.

The A horizon has hue of 5YR, 7.5YR, or 10YR, value of 2, and chroma of 1. It is dominantly loamy fine sand, but the range includes loamy coarse sand, loamy sand, sandy loam, fine sandy loam, or their gravelly analogs.

The E horizon has hue of 7.5YR or 10YR, value of 5 or 6, and chroma of 2. It has textures similar to those of the A horizon. Some pedons do not have an E horizon.

The Bh horizon has hue of 5YR or 7.5YR, value of 2 or 3, and chroma of 2 or 3. The Bhs horizon has hue of 2.5YR, 5YR, 7.5YR, or 10YR, value of 3 or 4, and chroma of 3 to 8. Some pedons have a Bs horizon that has hue of 5YR, 7.5YR, or 10YR, value of 4 or 5, and chroma of 4 to 6. The BC horizon has hue of 7.5YR or 10YR, value of 5 or 6, and chroma of 4 to 8. Some pedons do not have a BC horizon.

The B horizon is coarse sand, sand, fine sand, loamy coarse sand, loamy sand, or their gravelly analogs.

The C horizon has hue of 10YR, 2.5Y, or 5Y, value of 3 to 7, and chroma of 2 to 6. It is fine sand, coarse sand, or their gravelly or cobbly analogs.

Deerfield Series

The Deerfield series consists of very deep, moderately well drained soils on stream terraces and in other outwash areas. These soils formed in sandy glaciofluvial deposits. Slope ranges from 2 to 8 percent.

Deerfield soils in most places are near Belgrade, Quonset, Walpole, Warwick, and Windsor soils. Deerfield soils are coarser textured than the moderately well drained Belgrade soils and the somewhat poorly drained and poorly drained Walpole soils. Unlike the excessively drained Warwick soils, Deerfield soils have mottles in the subsoil and substratum.

Typical pedon of Deerfield fine sandy loam, 2 to 8 percent slopes, in the town of Veron, 200 feet north of Newtown Road and 1/2 mile west of Vermont Route 142:

Ap—0 to 8 inches; dark brown (10YR 3/3) fine sandy loam, brown (10YR 5/3) dry; weak fine granular structure; friable; many roots; neutral; abrupt smooth boundary.

Bw1—8 to 16 inches; yellowish brown (10YR 5/4) loamy fine sand; weak fine granular structure; friable; many roots; neutral; abrupt wavy boundary.

Bw2—16 to 21 inches; light olive brown (2.5Y 5/4) loamy fine sand; few fine prominent strong brown (7.5YR 5/8) and many medium prominent olive gray (5Y 5/2) mottles; weak fine granular structure; friable; common roots; neutral; gradual wavy boundary.

C1—21 to 42 inches; dark grayish brown (2.5Y 4/2) loamy fine sand; many medium prominent strong brown (7.5Y 5/6) and many coarse faint olive gray (5Y 4/2) mottles; weak fine granular structure; friable; common to few roots; slightly acid; abrupt smooth boundary.

C2—42 to 54 inches; dark grayish brown (2.5Y 4/2) coarse sand; many medium prominent yellowish brown (10YR 5/8) and many coarse prominent light olive brown (2.5Y 5/6) mottles; single grain; loose; moderately acid; abrupt smooth boundary.

C3—54 to 60 inches; olive gray (5Y 5/2) sand; many medium distinct olive (5Y 5/4) mottles; single grain; loose; slightly acid.

Depth to bedrock is more than 60 inches. The solum ranges from 15 to 32 inches in thickness. The content of rock fragments ranges from 0 to 15 percent in the solum and from 0 to 20 percent in the substratum. Reaction ranges from moderately acid to neutral throughout.

The Ap horizon has hue of 10YR, value of 2 to 4, and chroma of 2 or 3. It is fine sandy loam or loamy fine sand.

The Bw horizon has hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 3 to 6. It is loamy fine sand, fine sand, sand, or coarse sand. In some places it is fine sandy loam within a depth of 10 inches.

The C horizon has hue of 2.5Y or 5Y, value of 4 or 5, and chroma of 2 to 4. It is loamy fine sand, fine sand, sand, coarse sand, or their gravelly analogs.

Dummerston Series

The Dummerston series consists of very deep, well drained soils on hills and in other upland areas. They formed in loamy glacial till derived mainly from slate, shale, phyllite, or schist. Slope ranges from 3 to 70 percent.

Dummerston soils in most places are near Brayton, Fullam, Hubbardton, Macomber, and Taconic soils. Unlike Dummerston soils, the poorly drained Brayton

soils and the moderately well drained Fullam soils have mottles in the subsoil and substratum. Hubbardton soils are very shallow and excessively drained. Taconic soils are shallow and somewhat excessively drained. Macomber soils are moderately deep and well drained.

Typical pedon of Dummerston silt loam, in an area of Dummerston silt loam, 25 to 70 percent slopes, very stony, in the town of Vernon, 1,700 feet north of the Vermont-Massachusetts state line and 6,350 feet east of the Guilford town line:

Oi1—3 to 2 inches; undecomposed litter of leaves, needles, and twigs.

Oi2—2 inches to 0; slightly decomposed litter.

A—0 to 3 inches; very dark grayish brown (10YR 3/2) silt loam; moderate fine granular structure; very friable; many roots; 10 percent rock fragments; very strongly acid; abrupt wavy boundary.

Bw1—3 to 9 inches; dark yellowish brown (10YR 4/4) channery silt loam; weak fine granular structure; very friable; many roots; 20 percent rock fragments; very strongly acid; clear wavy boundary.

Bw2—9 to 15 inches; yellowish brown (10YR 5/4) channery silt loam; weak fine granular structure; very friable; many roots; 25 percent rock fragments; very strongly acid; clear wavy boundary.

Bw3—15 to 30 inches; olive (5Y 4/4) channery silt loam; weak medium subangular blocky structure; friable, common roots; 25 percent rock fragments; very strongly acid; gradual wavy boundary.

C1—30 to 35 inches; dark olive gray (5Y 3/2) channery loam; massive; friable; 25 percent rock fragments; strongly acid; clear smooth boundary.

C2—35 to 60 inches; dark olive gray (5Y 3/2) channery loam; massive; firm; 30 percent rock fragments; strongly acid.

Depth to bedrock is more than 60 inches. The solum ranges from 20 to 40 inches in thickness. The content of rock fragments range from 5 to 30 percent in the solum and from 10 to 35 percent in the substratum. Reaction ranges from very strongly acid to moderately acid throughout.

The A horizon has hue of 10YR, value of 2 to 4, and chroma of 1 to 3. It is silt loam, fine sandy loam, or their gravelly or channery analogs. Cultivated areas have an Ap horizon.

The Bw1 horizon has hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 4 to 6. The Bw2 and Bw3 horizons have hue of 10YR, 2.5Y, or 5Y, value of 4 to 5, and chroma of 2 to 6. The Bw horizon is silt loam, loam, fine sandy loam, or their gravelly or channery analogs.

The C horizon has hue of 10YR, 2.5Y, or 5Y, value of 3 to 5, and chroma of 2 to 4. It is silt loam, loam, fine sandy loam, or their gravelly or channery analogs.

Fullam Series

The Fullam series consists of very deep, moderately well drained soils on hills and in other upland areas. These soils formed in compact, loamy glacial till derived mainly from slate, shale, phyllite, or schist. Slope ranges from 3 to 35 percent.

Fullam soils in most places are near Brayton, Dummerston, Hubbardton, Macomber, and Taconic soils. Fullam soils are less gray in the subsoil than the poorly drained Brayton soils. Unlike the well drained Dummerston and Macomber soils, the excessively drained Hubbardton soils, and the somewhat excessively drained Taconic soils, Fullam soils have mottles in the subsoil. Hubbardton soils are very shallow. Macomber soils are moderately deep. Taconic soils are shallow.

Typical pedon of Fullam silt loam, 3 to 8 percent slopes, in the town of Vernon, 100 feet south of Tyler Hill Road and 150 feet east of I-91:

Ap—0 to 6 inches; very dark grayish brown (10YR 3/2) silt loam; light brownish gray (10YR 6/2) dry; weak fine granular structure; friable; many roots; 5 percent rock fragments; strongly acid; abrupt smooth boundary.

Bw1—6 to 15 inches; dark yellowish brown (10YR 4/4) channery silt loam; weak fine granular structure; friable; many roots; 15 percent rock fragments; moderately acid; abrupt wavy boundary.

Bw2—15 to 22 inches; olive (5Y 4/3) channery silt loam; common medium prominent dark yellowish brown (10YR 4/4) and yellowish red (5YR 5/8) mottles; weak fine subangular blocky structure; friable; common roots; 15 percent rock fragments; moderately acid; abrupt smooth boundary.

Cr1—22 to 42 inches; olive (5Y 4/3) channery silt loam; common medium prominent yellowish red (5YR 5/8) and common medium faint olive gray (5Y 4/2) mottles; weak thick platy structure; firm; 25 percent rock fragments; moderately acid; gradual smooth boundary.

Cr—42 to 60 inches; olive gray (5Y 4/2) channery silt loam; massive; firm; 20 percent rock fragments; moderately acid.

Depth to bedrock is more than 60 inches. The solum ranges from 18 to 30 inches in thickness. The content of rock fragments ranges from 5 to 25 percent in the solum and from 10 to 30 percent in the substratum. Reaction ranges from very strongly acid to moderately acid throughout.

The Ap horizon has hue of 10YR, value of 3 to 4, and chroma of 2 or 3. It is silt loam, loam, very fine sandy loam, fine sandy loam, or their gravelly or channery analogs.

The Bw1 horizon has hue of 7.5YR, 10YR, or 2.5Y, value of 4 or 5, and chroma of 3 to 6. The Bw2 horizon

has hue of 2.5Y or 5Y, value of 4 or 5, and chroma of 3 or 4. The Bw horizon is silt loam, fine sandy loam, very fine sandy loam, loam, or their gravelly or channery analogs.

The Cr horizon has hue of 2.5Y or 5Y, value of 4 or 5, and chroma of 2 to 4. It is silt loam, fine sandy loam, very fine sandy loam, loam, or their gravelly or channery analogs.

Glebe Series

The Glebe series consists of moderately deep, well drained soils on mountains. These soils formed in loamy glacial till. Slope ranges from 8 to 50 percent.

Glebe soils in the survey area were mapped only in a complex with Stratton soils. They are also near Londonberry soils. Glebe soils are deeper than the very shallow Londonberry soils and the shallow Stratton soils.

Typical pedon of Glebe very fine sandy loam, in an area of Stratton-Glebe complex, 8 to 15 percent slopes, very rocky, in the town of Dover, 2,250 feet east of the Somerset town line and 1.7 miles south of the Stratton town line:

Oi—3 to 1 inch; undecomposed litter of leaves, needles, and twigs.
Oi2—1 inch to 0; slightly decomposed litter.
A—0 to 8 inches; black (5YR 2/1) very fine sandy loam; weak fine granular structure; very friable; many roots; about 10 percent rock fragments; extremely acid; clear wavy boundary.
Bh—8 to 17 inches; dusky red (2.5YR 3/2) very fine sandy loam; weak fine subangular blocky structure; very friable; many roots; about 14 percent rock fragments; strongly smeary; extremely acid; clear wavy boundary.
Bhs—17 to 25 inches; dark reddish brown (5YR 3/3) very fine sandy loam; weak moderate subangular blocky structure; friable; common roots; about 14 percent rock fragments; strongly smeary; extremely acid; abrupt wavy boundary.
R—25 inches; mica schist bedrock.

Depth to bedrock ranges from 20 to 40 inches. The solum ranges from 14 to 38 inches in thickness. The content of rock fragments ranges from 5 to 25 percent in the solum. Reaction ranges from extremely acid to strongly acid throughout.

The A horizon is neutral or has hue of 2.5YR, 5YR, 7.5YR, or 10YR, value of 2 or 3, and chroma of 1 or 2. It is fine sandy loam, very fine sandy loam, silt loam, or their gravelly analogs.

Some pedons have an E horizon that has hue of 5YR or 7.5YR, value of 4 to 6, and chroma of 2. It is fine sandy loam or gravelly fine sandy loam.

The Bh horizon is neutral or has hue of 2.5YR, 5YR, or 7.5YR, value of 2 or 3, and chroma of 0 to 2. The Bhs horizon has hue of 5YR, 7.5YR, or 10YR and value and chroma of 3/3, 3/4, 3/6, or 4/3. The Bh and Bhs horizons are very fine sandy loam, fine sandy loam, sandy loam, or their gravelly analogs. Some pedons have a Bs horizon.

Some pedons have a C horizon that has hue of 10YR, 2.5Y, or 5Y, value of 3 or 4, and chroma of 2 to 4. It is fine sandy loam, sandy loam, or their gravelly analogs.

Bedrock is schist or gneiss.

Hadley Series

The Hadley series consists of very deep, well drained soils on flood plains. These soils formed in loamy alluvium. Slope ranges from 0 to 3 percent.

Hadley soils in most places are near Limerick and Winooski soils. Unlike Hadley soils, the moderately well drained Winooski soils and the poorly drained Limerick soils have mottles.

Typical pedon of Hadley silt loam, in the town of Putney on Putney Meadows, 300 feet southeast of the railroad underpass on the field road and 50 feet north of the field road:

Ap—0 to 7 inches; very dark grayish brown (2.5Y 3/2) silt loam; weak fine granular structure; friable; many roots; slightly acid; abrupt wavy boundary.
C1—7 to 36 inches; dark grayish brown (2.5Y 4/2) silt loam; massive; friable; few roots; slightly acid; gradual wavy boundary.
C2—36 to 60 inches; dark grayish brown (2.5Y 4/2) very fine sandy loam; massive friable; neutral.

Depth to bedrock is more than 60 inches. Reaction is slightly acid or neutral throughout.

The Ap horizon has hue of 10YR or 2.5Y, value of 3 or 4, and chroma of 2 to 4. It is silt loam or very fine sandy loam.

The C horizon has hue of 10YR, 2.5Y, or 5Y, value of 3 or 4, and chroma of 2 to 4. It is silt loam, very fine sandy loam, fine sandy loam, or loam. Some pedons have thin strata of loamy sand, fine sand, or sand.

Hogback Series

The Hogback series consists of shallow, well drained soils on hills and mountains. These soils formed in loamy glacial till derived mainly from schist or gneiss. Slope ranges from 3 to 50 percent.

Hogback soils in the survey area were mapped only in a complex with Rawsonville soils. They are also near Houghtonville, Mundal, Wilmington, and Worden soils. Houghtonville soils are very deep. Mundal soils are very deep and well drained and moderately well drained. Rawsonville soils are moderately deep. Worden soils are very deep and somewhat poorly drained. Wilmington soils are very deep and poorly drained.

Typical pedon of Hogback fine sandy loam, in an area of Rawsonville-Hogback fine sandy loams, 15 to 25 percent slopes, rocky, in the town of Dover, 1,000 feet north of Johnson Hill Road and 60 feet west of Maple Road:

Oi1—2 inches to 1 inch; undecomposed litter of needles, leaves, and twigs.
Oi2—1 inch to 0; decomposed litter.
A—0 to 2 inches; dark reddish brown (5YR 3/2) fine sandy loam; moderate very fine granular structure; very friable; many roots; 14 percent rock fragments; extremely acid; abrupt wavy boundary.
Bh1—2 to 7 inches; dark reddish brown (5YR 3/2) fine sandy loam; weak fine and medium subangular blocky structure; very friable; common roots; 14 percent coarse fragments; moderately smeary; strongly acid; clear wavy boundary.
Bh2—7 to 15 inches; dark reddish brown (5YR 3/2) fine sandy loam that has dark reddish brown (5YR 3/4) interfingering; weak fine and medium subangular blocky structure; very friable; common roots; 14 percent rock fragments; moderately smeary; strongly acid; abrupt wavy boundary.
R—15 inches; schist bedrock.

Depth to bedrock and thickness of the solum range from 10 to 20 inches. The content of rock fragments ranges from 5 to 35 percent throughout. Reaction ranges from extremely acid to strongly acid throughout.

The A horizon is neutral or has hue of 5YR, 7.5YR, or 10YR, value of 2 or 3, and chroma of 0 to 2. It is loam, fine sandy loam, or their gravelly analogs.

The Bh horizon has hue of 2.5YR, 5YR, or 7.5YR, value of 2 or 3, and chroma of 1 or 2. The Bh horizon is 4 or more inches thick. It is fine sandy loam, loam, or their gravelly analogs. Some pedons have a Bhs or Bs horizon that has hue of 2.5YR to 7.5YR, value of 3 to 5, and chroma of 3 to 6. The combined thickness of the Bh, Bhs, and Bs horizons is more than 8 inches.

Bedrock is schist or gneiss.

Houghtonville Series

The Houghtonville series consists of very deep, well drained soils on hills and mountains. These soils formed in loamy glacial till derived mainly from schist or gneiss. Slope ranges from 3 to 50 percent.

Houghtonville soils in most places are near Hogback, Monadnock, Mundal, Rawsonville, Wilmington, and Worden soils. Hogback soils are shallow. Rawsonville soils are moderately deep. Houghtonville soils have less sand in the substratum than Monadnock soils. Unlike Houghtonville soils, the moderately well drained Mundal soils have a dense substratum and the somewhat poorly drained Worden soils and the poorly drained Wilmington soils have mottles in the solum and a dense substratum.

Typical pedon of Houghtonville fine sandy loam, in an area of Houghtonville fine sandy loam, 8 to 15 percent slopes, very stony, in the town of Windham, 50 feet south of Vermont Route 121 and 3,300 feet east of Lawrence Four Corners:

Oi1—4 to 2 inches; undecomposed pine needles and twigs.
Oi2—2 inches to 0; slightly decomposed litter.
A—0 to 2 inches; black (5YR 2/1) fine sandy loam; weak fine granular structure; very friable; many roots; 5 percent rock fragments; extremely acid; abrupt wavy boundary.
E—2 to 4 inches; light brownish gray (10YR 6/2) fine sandy loam; weak fine granular structure; very friable; many roots; 5 percent rock fragments; extremely acid; abrupt wavy boundary.
Bh—4 to 6 inches; dark reddish brown (5YR 2/2) fine sandy loam; weak fine granular structure; very friable; many roots; 14 percent rock fragments; moderately smeary; extremely acid; abrupt wavy boundary.
Bhs1—6 to 13 inches; dark brown (7.5YR 3/4) fine sandy loam; weak fine subangular blocky structure; very friable; many roots; 14 percent rock fragments; moderately smeary; very strongly acid; clear wavy boundary.
Bhs2—13 to 23 inches; dark yellowish brown (10YR 3/4) gravelly fine sandy loam; weak fine subangular blocky structure; friable; common roots; 20 percent rock fragments; weakly smeary; very strongly acid; clear wavy boundary.
BC—23 to 32 inches; olive (5Y 4/3) gravelly fine sandy loam; weak fine subangular blocky structure; friable; few roots; 20 percent rock fragments; strongly acid; clear wavy boundary.
C—32 to 60 inches; dark olive (5Y 4/2) gravelly fine sandy loam; massive; friable; few roots; 20 percent rock fragments; moderately acid.

Depth to bedrock is more than 60 inches. The solum ranges from 18 to 38 inches in thickness. The content of rock fragments ranges from 5 to 20 percent in the solum and from 10 to 35 percent in the substratum. Reaction ranges from extremely acid to moderately acid throughout.

The A horizon has hue of 5YR to 10YR, value of 2 to 4, and chroma of 1 or 2. It is fine sandy loam, loam, silt loam, or their gravelly analogs.

The E horizon has hue of 5YR to 10YR, value of 4 to 6, chroma of 1 or 2. It is fine sandy loam or gravelly fine sandy loam.

The Bh horizon has hue of 2.5YR to 7.5YR, value of 2 or 3, and chroma of 1 or 2. The Bhs horizon has hue of 5YR to 10YR and value and chroma of 3/3, 3/4, 3/6, or 4/3. The Bh and Bhs horizons are fine sandy loam, loam, silt loam, or their gravelly analogs. Some pedons

have a Bs horizon that has hue of 5YR to 10YR and value and chroma of 4 or more. The combined thickness of the Bh, Bhs, and Bs horizons is more than 16 inches.

The BC horizon has hue of 7.5YR to 5Y, value of 3 or 4, and chroma of 3 to 6. It is fine sandy loam or gravelly fine sandy loam.

The C horizon has hue of 10YR to 5Y, value of 3 to 6, and chroma of 2 to 4. It is fine sandy loam, sandy loam, or their gravelly analogs.

Hubbardton Series

The Hubbardton series consists of very shallow, excessively drained soils on hills and mountains. These soils formed in loamy glacial till derived mainly from phyllite, slate, and schist. Slope ranges from 8 to 70 percent.

Hubbardton soils in the survey area were mapped only in a complex with Taconic soils. They are also near Dummerston, Fullam, and Macomber soils. Taconic soils are shallow and somewhat excessively drained. Dummerston soils are very deep and well drained. Macomber soils are moderately deep and well drained.

Typical pedon of Hubbardton very channery silt loam, in an area of Taconic-Hubbardton-Rock outcrop complex, 25 to 70 percent slopes, in the town of Guilford, on top of East Mountain, 6,700 feet west of the Vernon town line and 3 miles south of the Brattleboro town line:

Oi—2 inches to 0; undecomposed litter of leaves and twigs.

A—0 to 2 inches; black (10YR 2/1) very channery silt loam; dark brown (10YR 3/3) dry; moderate medium granular structure; friable; many roots; 40 percent rock fragments; strongly acid; abrupt wavy boundary.

Bw—2 to 6 inches; dark reddish brown (5YR 3/3) very channery silt loam; moderate fine and medium granular structure; friable; many roots; 50 percent rock fragments; strongly acid; abrupt wavy boundary.

R—6 inches; slate and schist bedrock.

Depth to bedrock and thickness of the solum ranges from 2 to 10 inches. The content of rock fragments ranges from 35 to 60 percent throughout. Reaction is very strongly acid or strongly acid throughout.

The A horizon has hue of 7.5YR or 10YR, value of 2 or 3, and chroma of 1 or 2. It is very channery loam or very channery silt loam.

The Bw horizon has hue of 5YR, 7.5YR, or 10YR, value of 3 or 4, and chroma of 3. It is very channery loam or very channery silt loam.

Bedrock is slate, schist, or phyllite.

Limerick Series

The Limerick series consists of very deep, poorly drained soils on flood plains. These soils formed in loamy alluvium. Slope ranges from 0 to 3 percent.

Limerick soils in most places are near Hadley and Winooski soils. Unlike the well drained Hadley soils and the moderately well drained Winooski soils, Limerick soils have mottles throughout the substratum.

Typical pedon in an area of Limerick silt loam, in the town of Westminster, 1,500 feet west of the Connecticut River and 2,170 feet north of Newcomb Brook:

Ap—0 to 6 inches; dark olive gray (5Y 3/2) silt loam, light brownish gray (2.5Y 6/2) dry; weak fine and medium granular structure; friable; many roots; moderately acid; abrupt smooth boundary.

Cg1—6 to 10 inches; dark gray (5Y 4/1) silt loam; many medium distinct very dark grayish brown (2.5Y 3/2) mottles; massive; friable; common roots; moderately acid; gradual smooth boundary.

Cg2—10 to 20 inches; olive gray (5Y 4/2) silt loam; many medium prominent dark reddish brown (5YR 3/4) and dark yellowish brown (10YR 4/4) mottles; massive; friable; common roots; moderately acid; gradual smooth boundary.

Cg3—20 to 28 inches; dark gray (5Y 4/1) silt loam; many medium prominent dark reddish brown (5YR 3/4) mottles; massive; friable; few roots; moderately acid; gradual smooth boundary.

Cg4—28 to 50 inches; dark gray (5Y 4/1) silt loam; many fine prominent dark yellowish brown (10YR 4/4) and olive brown (2.5Y 4/4) mottles; massive; friable; few roots; neutral; gradual smooth boundary.

Cg5—50 to 60 inches; dark gray (5Y 4/1) silt loam; many fine prominent dark yellowish brown (10YR 4/4) and olive brown (2.5Y 4/4) mottles; massive; friable; neutral.

Depth to bedrock is more than 60 inches. Reaction ranges from strongly acid to neutral in the A horizon and from moderately acid to neutral in the substratum.

The Ap horizon has hue of 10YR to 5Y, value of 3 or 4, and chroma of 2 or 3. It is silt loam or very fine sandy loam.

The Cg horizon has hue of 2.5Y to 5Y, value of 4 or 5, and chroma of 1 or 2. It is silt loam or very fine sandy loam.

Londonberry Series

The Londonberry series consists of very shallow, well drained soils on mountains. These soils formed in loamy glacial till. Slope ranges from 8 to 70 percent.

Londonberry soils in the survey area were mapped only in a complex with Stratton soils. They are also near Glebe soils. Londonberry soils are shallower than the

shallow Stratton soils and the moderately deep Glebe soils.

Typical pedon of Londonberry silt loam, in an area of Londonberry-Stratton silt loams, 8 to 25 percent slopes, very rocky, in the town of Windham, 600 feet east of the Londonberry town line and 300 feet southeast of the summit of Glebe Mountain:

Oi1—3 to 2 inches; undecomposed needles, leaves, and twigs.
Oi2—2 inches; to 0; slightly decomposed litter.
A—0 to 2 inches; black (N2/0) silt loam; weak fine granular structure; very friable; many roots; 10 percent rock fragments, very strongly acid; abrupt wavy boundary.
E—2 to 5 inches; reddish gray (5YR 5/2) fine sandy loam; weak fine subangular blocky structure; very friable; many roots; about 10 percent rock fragments; very strongly acid; abrupt wavy boundary.
R—5 inches; mica schist bedrock.

Depth to bedrock and thickness of the solum ranges from 2 to 10 inches. The content of rock fragments ranges from 0 to 10 percent throughout. Reaction ranges from extremely acid to strongly acid throughout.

The A horizon is neutral or has hue of 7.5YR to 10YR and value and chroma of 0 to 2. It is fine sandy loam, sandy loam, or silt loam.

The E horizon has hue of 5YR to 10YR, value of 4 to 6, and chroma of 1 or 2. It is fine sandy loam or silt loam.

Bedrock is schist or gneiss.

Lupton Series

The Lupton series consists of very deep, very poorly drained organic soils in bogs and swamps. These soils formed in decomposed herbaceous material more than 51 inches thick. The slope ranges from 0 to 2 percent.

Lupton soils in most places are near Brayton, Markey, Westbury, and Wilmington soils. Lupton soils have organic layers more than 51 inches thick; the poorly drained Brayton and Wilmington soils have an organic layer on the surface only and the somewhat poorly drained Westbury soils do not have an organic layer. Unlike Lupton soils, Markey soils have a sandy substratum.

Typical pedon of Lupton mucky peat, in the town of Dummerston, 1.0 mile north of the junction of Vermont Route 5 and Middle Road and 70 feet west of Swamp Road:

Oe—0 to 4 inches; black (5YR 2/1) broken face and dark reddish brown (5YR 2/2) rubbed mucky peat (hemic material); about 40 percent fiber unrubbed, less than 20 percent rubbed; weak fine granular structure; primarily herbaceous fibers; slightly acid; abrupt wavy boundary.
Oa1—4 to 9 inches; dark reddish brown (5YR 3/2) broken face and rubbed muck (sapric material); about 30 percent fibers unrubbed, less than 10 percent rubbed; massive; primarily woody fibers; slightly acid; abrupt wavy boundary.
Oa2—9 to 38 inches; black (5YR 2/1) broken face and rubbed muck (sapric material); about 30 percent fibers unrubbed, less than 10 percent rubbed; massive; primarily herbaceous fibers; slightly acid; clear irregular boundary.
Oa3—38 to 48 inches; dark reddish brown (5YR 2/2) broken face and rubbed muck (sapric material); about 40 percent fibers unrubbed, less than 15 percent rubbed; massive; primarily woody fibers; neutral; clear irregular boundary.
Oa4—48 to 60 inches; black (5YR 2/1) and dark reddish brown (5YR 2/2) broken face and rubbed muck (sapric material); about 40 percent fibers unrubbed, less than 15 percent rubbed; massive; primarily woody fibers; neutral.

Depth to bedrock is more than 60 inches. The organic layers are more than 51 inches thick. The organic material has hue of 5YR, 7.5YR, or 10YR, value of 2 or 3, and chroma of 1 or 2. Reaction ranges from moderately acid to neutral.

The surface tier is hemic or sapric material.

Lyman Series

The Lyman series consists of shallow, somewhat excessively drained soils on hills and mountains. These formed in loamy glacial till derived mainly from schist or gneiss. Slope ranges from 3 to 50 percent.

Lyman soils in most places are near Berkshire, Marlow, Tunbridge, and Westbury soils. Lyman soils are shallower than the very deep Berkshire, Marlow, and Westbury soils and the moderately deep Tunbridge soils.

Typical pedon of Lyman fine sandy loam, in an area of Lyman-Rock outcrop complex, 8 to 15 percent slopes, in the town of Brookline, 100 feet north of Putney Mountain Road and 70 feet west of the trail along the crest of Putney Mountain:

Oi1—2 inches to 1 inch; undecomposed litter or leaves, needles, and twigs.
Oi2—1 inch to 0; slightly decomposed needles and leaves.
Ap—0 to 5 inches; very dark grayish brown (10YR 3/2) fine sandy loam; weak fine granular structure; very friable; many fine and medium roots; 10 percent rock fragments; very strongly acid; abrupt smooth boundary.
Bs1—5 to 8 inches; dark brown (7.5YR 4/4) fine sandy loam; weak fine granular structure; very friable; many fine and coarse roots; 14 percent rock

fragments; weakly smeary; very strongly acid; clear wavy boundary.

Bs2—8 to 12 inches; dark yellowish brown (10YR 4/4) fine sandy loam; weak fine granular structure; very friable; many fine and coarse roots; 14 percent rock fragments; weakly smeary; strongly acid; clear wavy boundary.

Bw—12 to 15 inches; dark yellowish brown (10YR 4/4) gravelly fine sandy loam; weak medium subangular blocky structure; friable; many fine and coarse roots; 20 percent rock fragments; strongly acid; abrupt wavy boundary.

R—15 inches; schist bedrock.

Depth to bedrock and thickness of the solum range from 10 to 20 inches. The content of rock fragments ranges from 5 to 30 percent in the upper part of the solum and from 10 to 35 percent in the lower part. Reaction ranges from extremely acid to moderately acid.

The Ap horizon has hue of 5YR to 10YR, value of 2 or 3, and chroma of 1 or 2. It is sandy loam, fine sandy loam, very fine sandy loam, silt loam, or their gravelly analogs.

Some pedons have an E horizon that has hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 1 or 2. It is fine sandy loam loam, or their gravelly analogs.

The Bs horizon has hue of 5YR to 10YR, value of 4 or 5, and chroma of 4 to 8. Some pedons have Bh and Bhs horizons. The combined thickness of the Bh, Bhs, or Bs horizons is 8 inches or less.

The Bw horizon has hue of 7.5YR to 2.5Y, value of 2 to 5, and chroma of 3 or 4. Some pedons do not have a Bw horizon. The B horizon is sandy loam, fine sandy loam, very fine sandy loam, loam, or their gravelly analogs.

Bedrock is schist or gneiss.

Macomber Series

The Macomber series consists of moderately deep, well drained soils on hills and mountains. These soils formed in loamy glacial till derived mainly from phyllite or slate. Slopes ranges from 3 to 70 percent.

Macomber soils in most places are near Brayton, Dummerston, Fullam, Hubbardton, and Taconic soils. Brayton, Dummerston, and Fullam soils are very deep. Hubbardton soils are very shallow. Taconic soils are shallow.

Typical pedon of Macomber channery silt loam, in an area of Macomber-Taconic complex, 25 to 70 percent slopes, very rocky, in the town of Guilford, 1,300 feet east of I-91 and 1,300 feet north of the Vermont-Massachusetts state line:

Oi1—2 inches to 1 inch; undecomposed litter of leaves, needles, and twigs.

Oi2—1 inch to 0; slightly decomposed litter.

A—0 to 2 inches; very dark grayish brown (10YR 3/2) channery silt loam; weak fine granular structure; friable; many roots; 25 percent rock fragments; very strongly acid; clear wavy boundary.

Bw1—2 to 6 inches; dark yellowish brown (10YR 4/4) channery silt loam; weak fine subangular blocky structure; friable; many roots; 30 percent rock fragments; very strongly acid; clear wavy boundary.

Bw2—6 to 16 inches; light olive brown (2.5Y 5/4) very channery loam; weak; medium subangular blocky structure; friable; many roots; 35 percent rock fragments; strongly acid; abrupt irregular boundary.

C—16 to 34 inches; dark grayish brown (2.5Y 4/2) very channery silt loam; weak medium angular blocky structure; friable; common roots; 45 percent rock fragments; strongly acid; clear wavy boundary.

R—34 inches; slate bedrock.

Depth to bedrock ranges from 20 to 40 inches. The solum ranges from 15 to 30 inches in thickness. The content of rock fragments ranges from 10 to 35 percent in the upper part of the solum and from 30 to 60 percent in the lower part and from 40 to 65 percent in the substratum. Reaction is very strongly acid or strongly acid throughout.

The A horizon has hue of 10YR or 2.5Y, value of 2 to 4, and chroma of 1 to 4. It is silt loam, loam, or their channery analogs.

The Bw horizon has hue of 7.5YR, 10YR, or 2.5Y, value of 3 to 5, and chroma of 3 to 6. It is channery or very channery silt loam or loam.

The C horizon has hue of 2.5Y or 5Y, value of 4 or 5, and chroma of 2 to 4. It is very channery silt loam or very channery loam.

Bedrock is phyllite or slate.

Markey Series

The Markey series consists of very deep, very poorly drained organic soils in bogs and swamps. These soils formed in decomposed herbaceous materials 16 to 51 inches thick over sandy deposits. Slope ranges from 0 to 2 percent.

Markey soils in most places are near Brayton, Lupton, Westbury, and Wilmington soils. Markey soils have organic layers 16 to 51 inches thick; the poorly drained Brayton and Wilmington soils have an organic layer on the surface layer, and the somewhat poorly drained Westbury soils do not have an organic layer. Unlike Lupton soils, Markey soils have a sandy substratum.

Typical pedon of Markey muck, in the town of Marlboro, 30 feet south of the junction of Vermont Route 9 and a gravel road that runs east 1.0 mile to Marlboro village:

Oa1—0 to 4 inches; dark reddish brown (5YR 3/2) broken face, black (5YR 2/1) rubbed muck (sapric

material); about 30 percent fibers unrubbed, less than 5 percent rubbed; massive; primarily herbaceous fibers; moderately acid; abrupt smooth boundary.

Oa2—4 to 15 inches; dark reddish brown (5YR 2/2) broken face and rubbed muck (sapric material); about 5 percent fiber unrubbed, less than 5 percent rubbed; massive; primarily herbaceous fibers; moderately acid; clear smooth boundary.

Oa3—15 to 34 inches; black (5YR 2/1) broken face and rubbed muck (sapric material); about 5 percent fiber unrubbed, less than 5 percent rubbed; massive; primarily herbaceous fibers; slightly acid; clear smooth boundary.

Cg—34 to 60 inches; gray (10YR 5/1) fine sand; single grain; loose; neutral.

Depth to bedrock is more than 60 inches. The organic material is 16 to 51 inches thick. Reaction ranges from moderately acid to neutral throughout.

The organic material has hue of 5YR, 7.5YR, or 10YR, value of 2 to 4, and chroma of 1 or 2.

The C horizon is neutral or has hue of 10YR, 2.5Y, or 5Y, value of 4 to 6, and chroma of 0 to 2. It is fine sand or loamy sand.

Marlow Series

The Marlow series consists of very deep, well drained soils on hills and mountains. These soils formed in compact, loamy glacial till. Slope ranges from 3 to 50 percent.

Marlow soils in most places are near Berkshire, Lyman, Tunbridge, and Westbury soils. Unlike the very deep Berkshire soils, the shallow Lyman soils, and the moderately deep Tunbridge soils, Marlow soils have a dense, compact substratum. Unlike Marlow soils, Westbury soils have mottles in the subsoil.

Typical pedon of Marlow fine sandy loam, in an area of Marlow fine sandy loam, 8 to 15 percent slopes, very stony, in the town of Brattleboro, 0.5 mile southeast of Vermont Route 9 and 500 feet east of Stark Road:

Oi1—2 inches to 1 inch; undecomposed litter of leaves and twigs.

Oi2—1 inch to 0; slightly decomposed litter.

A—0 to 1 inches; black (10YR 2/1) fine sandy loam; weak fine granular structure; very friable; many roots; 10 percent rock fragments; very strongly acid; abrupt smooth boundary.

E—1 to 2 inches; gray (10YR 5/1) fine sandy loam; weak fine granular structure; very friable; many roots; 10 percent rock fragments; very strongly acid; abrupt broken boundary.

Bs1—2 to 6 inches; dark brown (7.5YR 4/4) fine sandy loam; weak fine granular structure; very friable; many roots; 10 percent rock fragments; strongly acid; clear wavy boundary.

Bs2—6 to 14 inches; dark yellowish brown (10YR 4/4) gravelly fine sandy loam; weak fine granular structure; very friable; many roots; 15 percent rock fragments; strongly acid; gradual wavy boundary.

Bw—14 to 27 inches; olive brown (2.5Y 4/4) gravelly fine sandy loam; weak medium granular structure; friable; many roots; 15 percent rock fragments; strongly acid; clear smooth boundary.

BC—27 to 30 inches; olive (5Y 4/3) gravelly fine sandy loam; weak medium subangular blocky structure; friable; 15 percent rock fragments; strongly acid; abrupt smooth boundary.

Cr—30 to 60 inches; olive gray (5Y 4/3) gravelly fine sandy loam; moderate medium platy structure; very firm and brittle; 20 percent rock fragments; moderately acid.

Depth to bedrock is more than 60 inches. The solum ranges from 16 to 36 inches in thickness. The content of rock fragments ranges from 5 to 30 percent throughout. Reaction ranges from very strongly acid to moderately acid throughout.

The A horizon has hue of 5YR to 10YR, value of 2 to 4, and chroma of 1 to 3. It is fine sandy loam, loam, silt loam, or their gravelly analogs. Cultivated areas have an Ap horizon.

The E horizon has hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 1 or 2. It is fine sandy loam or gravelly fine sandy loam.

Some pedons have a Bhs horizon that has hue of 5YR or 7.5YR, value of 3 or 4, and chroma of 2 or 3. The Bs horizon has hue of 5YR to 10YR, value of 4 or 5, and chroma of 4 to 6. The Bw horizon has hue of 7.5YR to 2.5Y, value of 4 or 5, and chroma of 3 or 4. The BC horizon has hue of 2.5Y or 5Y, value of 4 to 6, and chroma of 3 or 4. The B and BC horizons are fine sandy loam, loam, or their gravelly analogs. Some pedons have a Bh horizon. The combined thickness of the Bh, Bhs, and Bs horizons is 18 inches or less.

The Cr horizon has hue of 2.5Y or 5Y, value of 3 to 5, and chroma of 1 to 4. It is sandy loam, fine sandy loam, or their gravelly analogs.

Monadnock Series

The Monadnock series consists of very deep, well drained soils on hills and mountains. These soils formed in loamy glacial drift underlain by sandy glacial till. Slope ranges from 3 to 50 percent.

Monadnock soils in most places are near Adams, Berkshire, Houghtonville, Wilmington, and Worden soils. Monadnock soils have a finer textured subsoil than the Adams soil. Monadnock soils have a coarser textured substratum than the well drained Berkshire and Houghtonville soils, the poorly drained Wilmington soils, and the somewhat poorly drained Worden soils.

Typical pedon of Monadnock fine sandy loam, in an area of Monadnock fine sandy loam, 8 to 15 percent slopes, very stony, in the town of Townshend, 5,500 feet east of Vermont Route 35 and 600 feet southeast of Wiswell Cemetery:

Oi—2 inches to 1 inch; undecomposed litter of leaves, needles, and twigs.

Oe—1 inch to 0; moderately decomposed litter.

A—0 to 2 inches very dark grayish brown (10YR 3/2) fine sandy loam; weak fine granular structure; very friable; 5 percent rock fragments; strongly acid; abrupt smooth boundary.

Bhs—2 to 8 inches; dark reddish brown (5YR 3/3) fine sandy loam; weak fine granular structure; very friable; 5 percent rock fragments; weakly smeary; strongly acid; abrupt wavy boundary.

Bs—8 to 12 inches; brown (7.5YR 4/4) gravelly fine sandy loam; weak fine granular structure; friable; 20 percent rock fragments; strongly acid; clear wavy boundary.

Bw—12 to 24 inches; dark yellowish brown (10YR 4/4) gravelly fine sandy loam; weak fine granular structure; friable; 25 percent rock fragments; strongly acid; clear wavy boundary.

2C1—24 to 48 inches; light olive brown (2.5Y 5/4) very gravelly loamy sand; massive; friable; 40 percent rock fragments; moderately acid; gradual wavy boundary.

2C2—48 to 60 inches; olive (5Y 5/3) very gravelly loamy sand; massive; firm; 45 percent rock fragments; moderately acid.

Depth to bedrock is more than 60 inches. The solum ranges from 18 to 30 inches in thickness. The content of rock fragments ranges from 5 to 30 percent in the solum and from 10 to 55 percent in the substratum. Reaction ranges from extremely acid to moderately acid throughout.

The A horizon has hue of 7.5YR or 10YR, value of 2 to 4, and chroma of 2 or 3. It is fine sandy loam or gravelly fine sandy loam. Cultivated areas have an Ap horizon.

Some pedons have an E horizon that has hue of 10YR, value of 5 or 6, and chroma of 2. It is fine sandy loam or gravelly fine sandy loam.

The Bhs and Bs horizons have hue of 5YR, 7.5YR, or 10YR, value of 3 to 5, and chroma of 3 to 8. The Bw horizon has hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 4 to 8. The B horizon is fine sandy loam or gravelly fine sandy loam. Some pedons have a Bh horizon.

The 2C horizon has hue of 2.5Y or 5Y, value of 4 to 6, and chroma of 2 to 4. It is loamy fine sand, loamy sand, or their gravelly or very gravelly analogs.

Mundal Series

The Mundal series consists of very deep, well drained and moderately well drained soils on hills and mountains. These soils formed in compact, loamy glacial till. Slope ranges from 3 to 50 percent.

Mundal soils in most places are near Hogback, Houghtonville, Rawsonville, and Worden soils. Hogback soils are shallow. Rawsonville soils are moderately deep. Unlike Houghtonville soils, Mundal soils have a dense, compact substratum. The somewhat poorly drained Worden soils have mottles in the subsoil.

Typical pedon of Mundal fine sandy loam, in an area of Mundal fine sandy loam, 15 to 25 percent slopes, very stony, in the town of Wilmington, 1,000 feet east of Vermont Route 100 and 700 feet south of Higley Hill Road:

Oi1—4 to 2 inches; undecomposed litter of hardwood leaves and twigs.

Oi2—2 inches to 0; slightly decomposed litter.

A—0 to 1 inch; black (5YR 2/1) fine sandy loam; weak fine granular structure; very friable; many roots; 10 percent rock fragments; very strongly acid; abrupt wavy boundary.

E—1 to 3 inches; dark gray (10YR 4/1) fine sandy loam; weak fine and medium granular structure; very friable; many roots; 10 percent rock fragments; strongly acid; abrupt broken boundary.

Bh1—3 to 8 inches; very dusky red (2.5YR 2/2) fine sandy loam; weak fine and medium granular structure; friable; many roots; 14 percent rock fragments; moderately smeary; very strongly acid; clear irregular boundary.

Bh2—8 to 16 inches; dark reddish brown (5YR 3/2) fine sandy loam; weak medium subangular blocky structure; friable; common roots; 14 percent rock fragments; moderately smeary; very strongly acid; clear irregular boundary.

Bs—16 to 25 inches; dark brown (7.5YR 4/4) sandy loam; dark reddish brown (5YR 3/2) interfingering; weak medium and coarse subangular blocky structure; firm; few roots; 14 percent rock fragments; weakly smeary; strongly acid; clear wavy boundary.

Cr1—25 to 57 inches; dark grayish brown (2.5Y 4/2) gravelly fine sandy loam; dark reddish brown (5YR 3/3) interfingers on faces of peds; olive brown (2.5Y 4/4) and reddish brown (5YR 4/3) prism faces; weak moderately thick platy structure; firm; few roots; 20 percent rock fragments; strongly acid; gradual wavy boundary.

Cr2—57 to 60 inches; olive brown (2.5Y 4/4) gravelly fine sandy loam; massive; firm; no roots; 20 percent rock fragments; moderately acid.

Depth to bedrock is more than 60 inches. The solum ranges from 20 to 30 inches in thickness. The content of

rock fragments ranges from 0 to 15 percent in the solum, from 5 to 50 percent in the upper part of the substratum, and from 10 to 35 percent in the lower part of the substratum. Reaction ranges from extremely acid to strongly acid in the solum and from strongly acid to slightly acid in the substratum.

The A horizon is neutral or has hue of 5YR to 10YR, value of 2 or 3, and chroma of 0 to 2. It is loam, fine sandy loam, or their gravelly analogs.

The E horizon has hue of 2.5YR, 5YR, or 10YR value of 4 or 5, and chroma of 1 to 3. It is fine sandy loam or gravelly fine sandy loam.

The Bh horizon is neutral or has hue of 2.5YR to 10YR, value of 2 or 3, and chroma of 0 to 2. The Bs horizon has hue of 7.5YR or 10YR, value of 4 or 6, and chroma of 4 to 6. The B horizon is loam, fine sandy loam, or their gravelly analogs. Some pedons have a Bhs horizon. Combined thickness of the Bh, Bhs, and Bs horizon is more than 18 inches.

The Cr horizon has hue of 2.5Y or 5Y, value of 4 to 6, and chroma of 2 to 4. It is loam, fine sandy loam, sandy loam, or their gravelly or cobbly analogs.

Ondawa Series

The Ondawa series consists of very deep, well drained soils on flood plains. These soils formed in loamy alluvium underlain by sandy alluvium. Slope ranges from 0 to 3 percent.

Ondawa soils in most places are near Podunk and Rumney soils. The moderately well drained Podunk soils and the poorly drained Rumney soils have mottles in the subsoil; Ondawa soils do not have mottles.

Typical pedon of Ondawa fine sandy loam, in the town of Townshend, 900 feet east of the West River and 1,500 feet northwest of the center of Harmonyville:

Ap—0 to 6 inches; dark brown (10YR 4/3) fine sandy loam; weak fine granular structure; friable; many roots; moderately acid; clear smooth boundary.

Bw1—6 to 15 inches; dark yellowish brown (10YR 4/4) fine sandy loam; weak fine granular structure; friable; common roots; moderately acid; clear smooth boundary.

Bw—15 to 22 inches; yellowish brown (10YR 5/4) and dark yellowish brown (10YR 4/4) fine sandy loam; weak fine granular structure; friable; common roots; moderately acid; abrupt smooth boundary.

Bw3—22 to 26 inches; dark brown (10YR 4/3) fine sandy loam; weak fine granular structure; friable; common roots; slightly acid; abrupt smooth boundary.

2C1—26 to 31 inches; yellowish brown (10YR 5/4) loamy fine sand; single grain; loose; many roots; moderately acid; clear smooth boundary.

2C2—31 to 60 inches; dark yellowish brown (10YR 4/4) loamy fine sand; single grain; loose; many roots; moderately acid.

Depth to bedrock is more than 60 inches. The solum ranges from 20 to 40 inches in thickness. There are no rock fragments in the solum. The content of rock fragments ranges from 0 to 15 percent in the substratum. Reaction ranges from very strongly acid to slightly acid throughout.

The Ap horizon has hue of 10YR or 2.5Y, value of 3 or 4, and chroma of 2 or 3. It is sandy loam to very fine sandy loam.

The Bw horizon has hue of 10YR or 2.5Y, value of 3 to 5, and chroma of 3 or 4. It is sandy loam to very fine sandy loam.

The 2C horizon has hue of 10YR to 5Y, value of 4 to 6, and chroma of 2 to 6. It is loamy fine sand to sand.

Podunk Series

The Podunk series consists of very deep, moderately well drained soils on flood plains. These soils formed in loamy alluvium underlain by sandy alluvium. Slope ranges from 0 to 3 percent.

Podunk soils in most places are near Ondawa and Rumney soils. Podunk soils have mottles in the subsoil; the well drained Ondawa soils do not have mottles. Podunk soils have an overall browner color in the subsoil and substratum than Rumney soils.

Typical pedon of Podunk fine sandy loam, in the town of Vernon 330 feet east of Vermont Route 142 and 3,170 feet south of the Brattleboro town line:

Ap—0 to 8 inches; very dark grayish brown (10YR 3/2) fine sandy loam; weak fine granular structure; friable; many roots; moderately acid; abrupt smooth boundary.

Bw1—8 to 14 inches; olive brown (2.5Y 4/4) fine sandy loam; moderate fine granular structure; friable; many roots; moderately acid; clear smooth boundary.

Bw2—14 to 30 inches; light olive brown (2.5Y 5/4) fine sandy loam; few fine prominent olive gray (5Y 4/2) and few fine distinct dark yellowish brown (10YR 4/4) mottles; moderate fine granular structure; friable; common roots; moderately acid; abrupt smooth boundary.

2C—30 to 60 inches; olive (5Y 4/3) coarse sand; few fine prominent yellowish brown (10YR 5/6) and few fine faint olive gray (5Y 4/2) mottles; single grain; loose; slightly acid.

Depth to bedrock is more than 60 inches. The solum ranges from 20 to 40 inches in thickness. The content of rock fragments ranges from 0 to 5 percent in the solum and from 0 to 30 percent in the substratum. Reaction ranges from very strongly acid to slightly acid throughout.

The Ap horizon has hue of 10YR to 2.5Y, value of 3 to 5, and chroma of 2 to 4. It is fine sandy loam or sandy loam.

The Bw horizon has hue of 10YR to 5Y and value and chroma of 3 to 6. It is fine sandy loam or sandy loam.

The 2C horizon has hue of 10YR to 5Y, value of 4 or 5, and chroma of 1 to 4. It is loamy fine sand, loamy sand, fine sand, sand, coarse sand, or their gravelly analogs.

Quonset Series

The Quonset series consists of very deep, excessively drained soils on stream terraces and other outwash areas. These soils formed in sandy and gravelly glaciofluvial deposits that derived mainly from phyllite, shale, or slate. Slope ranges from 2 to 70 percent.

Quonset soils in the survey area were mapped only in an undifferentiated group with Warwick soils. They are also near Agawam, Deerfield, Walpole, and Windsor soils. Quonset soils have a coarser textured subsoil than the somewhat excessively drained Warwick soils, the well drained Agawam soils, and the somewhat poorly drained and poorly drained Walpole soils. Quonset soils have more rock fragments throughout than the well drained to excessively drained Adams soils and the moderately well drained Deerfield soils.

Typical pedon of Quonset fine sandy loam, in an area of Quonset and Warwick soils, 2 to 8 percent slopes, in the town of Brattleboro, 400 feet east of the Guilford Street extension and 1,400 feet north of the Guilford town line:

Ap—0 to 7 inches; very dark grayish brown (10YR 3/2) fine sandy loam; moderate fine granular structure; very friable; many roots; 14 percent rock fragments; neutral; abrupt smooth boundary.

Bw1—7 to 12 inches; dark yellowish brown (10YR 4/4) gravelly sandy loam; weak fine granular structure; very friable; many roots; 15 percent rock fragments; neutral; gradual wavy boundary.

Bw2—12 to 20 inches;dark yellowish brown (10YR 4/4) very gravelly loamy sand; single grain; very friable; common roots; 35 percent rock fragments; neutral; gradual wavy boundary.

2C1—20 to 28 inches; olive brown (2.5Y 4/4) very gravelly sand; single grain; loose; few roots; 35 percent rock fragments; slightly acid; clear smooth boundary.

2C2—28 to 60 inches; grayish brown (2.5Y 5/2) very gravelly sand; single grain; loose; very few roots; 55 percent rock fragments; slightly acid.

Depth to bedrock is more than 60 inches. The solum ranges from 15 to 30 inches in thickness. The content of rock fragments ranges from 0 to 50 percent in the upper part of the solum, from 15 to 50 percent in the lower part, and from 30 to 80 percent in the substratum. Reaction ranges from strongly acid to neutral in the solum and from strongly acid to slightly acid in the substratum.

The Ap horizon has hue of 10Y, value of 2 to 4, and chroma of 1 to 4. It is fine sandy loam, sandy loam, loamy sand, or their gravelly or channery analogs.

The Bw1 horizon has hue of 7.5YR to 10YR, value of 3 to 5, and chroma of 3 to 6. It is sandy loam or gravelly or channery sandy loam. The Bw2 horizon has hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 4 to 6. It is gravelly loamy sand, channery loamy sand, very gravelly loamy sand, or very channery loamy sand.

The 2C horizon has hue of 2.5Y or 5Y, value of 3 to 5, and chroma of 2 to 4. It is very gravelly or very channery sand or coarse sand.

Rawsonville Series

The Rawsonville series consists of moderately deep, well drained soils on hills and mountains. These soils formed in loamy glacial till derived mainly from schist and gneiss. Slope ranges from 3 to 50 percent.

Rawsonville soils in most places are near Hogback, Houghtonville, Mundal, Wilmington, and Worden soils. Hogback soils are shallow. Houghtonville, Mundal, Wilmington, and Worden soils are very deep. Unlike Rawsonville soils, Wilmington and Worden soils have mottles in the upper part of the subsoil.

Typical pedon of Rawsonville fine sandy loam, in an area of Rawsonville-Hogback fine sandy loams, 15 to 25 percent slopes, rocky, in the town of Dover, 1,000 feet north of Johnson Hill Road and 80 feet west of Maple Road:

Oi1—3 inches to 1 inch; undecomposed litter of needles, twigs, and leaves.

Oi2—1 inch to 0; slightly decomposed litter.

A—0 to 1 inch; black (5YR 2/1) fine sandy loam; weak medium subangular blocky structure; friable; many roots; 10 percent rock fragments; extremely acid; abrupt irregular boundary.

Bh—1 to 10 inches; dark reddish brown (5YR 3/2) fine sandy loam; weak medium and coarse subangular blocky structure; friable; common roots; 10 percent rock fragments; moderately smeary; strongly acid; abrupt wavy boundary.

Bhs—10 to 19 inches; dark reddish brown (5YR 3/3) fine sandy loam; weak medium and coarse subangular blocky structure; 10 percent rock fragments; moderately smeary; strongly acid; abrupt wavy boundary.

BC—19 to 28 inches; dark brown (10YR 3/3) fine sandy loam; common coarse prominent olive (5Y 4/3) and dark reddish brown (5YR 3/3) mottles; moderate thick platy structure; very firm; few roots; 10 percent rock fragments; weakly smeary; strongly acid; abrupt wavy boundary.

R—28 inches; schist bedrock.

Depth to bedrock and thickness of the solum ranges from 20 to 40 inches. The content of rock fragments ranges from 0 to 20 percent in the upper part of the solum and from 5 to 35 percent in the lower part. Reaction ranges from extremely acid to strongly acid throughout.

The A horizon is neutral or has hue of 5YR to 10YR, value of 2 or 3, and chroma of 0 or 2. It is fine sandy loam, loam, or silt loam.

Some pedons have an E horizon that has hue of 5YR or 7.5YR, value of 3 to 6, and chroma of 1 to 3. It is sandy loam, fine sandy loam, loam, or silt loam.

The Bh horizon is neutral or has hue of 2.5YR to 7.5YR, value of 2 or 3, and chroma of 0 to 2. The Bhs horizon has hue of 5YR to 10YR and value and chroma of 0 to 2. The Bhs horizon has hue of 5YR to 10YR and value and chroma of 3/3, 3/4, 3/6, or 4/3. Some pedons have a Bs horizon that has hue of 5YR to 10YR and value and chroma of 4 or more. The B horizon is fine sandy loam, loam, silt loam, or their gravelly analogs. The combined thickness of the Bh, Bhs, and Bs horizons is more than 16 inches.

The BC horizon has hue of 7.5YR to 5Y, value of 3 to 5, and chroma of 2 to 4. It is loamy fine sand, fine sandy loam, or their gravelly analogs.

Some pedons have a C horizon that has hue of 2.5Y or 5Y, value of 3 to 5, and chroma of 2 to 4. It is sandy loam, fine sandy loam, or their gravelly analogs.

Bedrock is schist or gneiss.

Rumney Series

The Rumney series consists of very deep, poorly drained soils on flood plains. These soils formed in loamy alluvium underlain by sandy alluvium. Slope ranges from 0 to 3 percent.

Rumney soils in most places are near Ondawa and Podunk soils. Rumney soils have an overall grayer color throughout than the well drained Ondawa soils and the moderately well drained Podunk soils.

Typical pedon of Rumney fine sandy loam, in the town of Putney, 6,500 feet north of the Dummerston town line, 325 feet north and 70 feet west of Sacketts Brook:

Ap—0 to 8 inches; dark gray (10YR 4/1) fine sandy loam; many coarse prominent dark brown (7.5YR 4/4) mottles; moderate fine granular structure; friable; many roots; neutral; abrupt smooth boundary.

Bw1—8 to 22 inches; dark grayish brown (10YR 4/2) fine sandy loam; few fine distinct dark yellowish brown (10YR 4/4) mottles; moderate fine granular structure; friable; common roots; neutral; clear smooth boundary.

Bw2—22 to 31 inches; very dark grayish brown (10YR 3/2) fine sandy loam; few fine distinct dark yellowish brown (10YR 4/4) mottles; weak fine granular structure; friable; few roots; neutral; abrupt smooth boundary.

Bw3—31 to 36 inches; dark grayish brown (2.5Y 4/2) fine sandy loam; many coarse prominent reddish brown (5YR 4/3) mottles; weak fine subangular blocky structure; friable; neutral; abrupt smooth boundary.

2C2—36 to 60 inches; olive gray (5Y 4/2) loamy; sand; many coarse prominent dark yellowish brown (10YR 4/4) mottles; single grain; loose; 10 percent rock fragments; neutral.

Depth to bedrock is more than 60 inches. The solum ranges from 20 to 36 inches in thickness. The content of rock fragments ranges from 0 to 10 percent in the solum and from 5 to 40 percent in the substratum. Reaction ranges from very strongly acid to neutral throughout.

The Ap horizon has hue of 10YR or 2.5Y, value of 2 to 4, and chroma of 1 or 2.

The B horizon has hue of 10YR to 5Y, value of 3 to 5, and chroma of 1 or 2. It is sandy loam, fine sandy loam, or loam.

The 2C horizon has hue of 2.5Y or 5Y, value of 3 to 5, and chroma of 1 or 2. It is loamy sand, sand, or gravelly sand.

Sheepscot Series

The Sheepscot series consists of very deep, moderately well drained soils on stream terraces and in other outwash areas. These soils formed in loamy glaciofluvial deposits underlain by sandy glaciofluvial deposits. Slope ranges from 0 to 8 percent.

Sheepscot soils in most places are near Adams, Colton, and Monadnock soils. Unlike the well drained to excessively drained Adams soils, the excessively drained Colton soils, and the well drained Monadnock soils, Sheepscot soils have mottles in the subsoil.

Typical pedon of Sheepscot fine sandy loam, 3 to 8 percent slopes, in the town of Townshend, 200 feet west of Vermont Route 30 and 900 feet south-southeast of the village of Harmonyville:

Ap—0 to 6 inches; very dark grayish brown (10YR 3/2) fine sandy loam; weak fine granular structure; very friable; many roots; 10 percent rock fragments; neutral; abrupt wavy boundary.

Bs—6 to 16 inches; dark yellowish brown (10YR 4/4) gravelly sandy loam; weak fine granular structure; very friable; many roots; 15 percent rock fragments; moderately acid; clear irregular boundary.

C1—16 to 36 inches; olive brown (2.5Y 4/4) very gravelly loamy sand; common medium distinct black (10YR 2/1) and common medium faint olive gray (5Y 4/2) mottles; single grain; loose, common roots; 40 percent rock fragments; moderately acid; clear irregular boundary.

C2—36 to 60 inches; grayish brown (2.5Y 5/2) very gravelly loamy sand; common fine distinct very dark brown (10YR 3/3) mottles; single grain; loose; many roots; 60 percent rock fragments; moderately acid.

Depth to bedrock is more than 60 inches. The solum ranges from 14 to 30 inches in thickness. The content of rock fragments ranges from 5 to 50 percent in the solum and from 35 to 70 percent in the substratum. Reaction ranges from strongly acid to neutral in solum and is strongly acid or moderately acid in the substratum.

The Ap horizon has hue of 10YR, value of 3 or 4, and chroma of 2 or 3. It is fine sandy loam, sandy loam, or their gravelly or very gravelly analogs.

Some pedons have an E horizon that has hue of 5YR, 7.5YR, or 10YR, value of 5 or 6, and chroma of 1 or 2. It is fine sandy loam, sandy loam, or their gravelly or very gravelly analogs.

The Bs horizon has hue of 5YR, 7.5YR, or 10YR, value of 4 or 5, and chroma of 4 to 6. Some pedons have a Bh or Bhs horizon that has hue of 2.5YR, 5YR, or 7.5YR and value and chroma of less than 4. The B horizon is fine sandy loam, sandy loam, or their gravelly or very gravelly analogs.

The C horizon has hue of 2.5Y or 5Y, value of 4 or 5, and chroma of 2 to 4. It is loamy sand, sand, or their gravelly or very gravelly analogs.

Stratton Series

The Stratton series consists of shallow, well drained soils on mountains. These soils formed in loamy glacial till. Slope ranges from 8 to 70 percent.

Stratton soils in most places are near Glebe and Londonberry soils. Glebe soils are moderately deep. Londonberry soils are very shallow.

Typical pedon of Stratton silt loam, in an area of Londonberry-Stratton silt loams, 8 to 25 percent slopes, very rocky, in the town of Somerset, 700 feet south of the skilift on the summit of Mount Snow and 800 feet west of the Dover town line:

Oi—4 to 2 inches; undecomposed litter of needles, leaves and twigs.

Oe—2 inches to 0; slightly and moderately decomposed forest litter.

A—0 to 2 inches; black (5YR 2/1) silt loam; weak fine granular structure; very friable; many roots; 5 percent rock fragments; extremely acid; abrupt smooth boundary.

E—2 to 4 inches; dark gray (5YR 4/1) fine sandy loam; weak fine granular structure; very friable; many roots; 5 percent rock fragments; very strongly acid; abrupt wavy boundary.

Bh1—4 to 7 inches; black (5YR 2/1) fine sandy loam; weak fine granular structure; friable; many roots; 10 percent rock fragments; strongly smeary; very strongly acid; abrupt wavy boundary.

Bh2—7 to 16 inches; dark reddish brown (5YR 3/2) very cobbly fine sandy loam; weak fine subangular blocky structure; friable; common roots; 45 percent rock fragments; strongly smeary; strongly acid; abrupt irregular boundary.

R—16 inches; slightly weathered mica schist bedrock.

Depth to bedrock and thickness of the solum ranges from 10 to 20 inches. The content of rock fragments ranges from 5 to 15 percent in the upper part of the solum and from 35 to 80 percent in the lower part. Reaction ranges from extremely acid to strongly acid throughout.

The A horizon is neutral or has hue of 5YR, 7.5YR, or 10YR, value of 2 or 3, and chroma of 0 to 2. It is fine sandy loam, loam, or silt loam.

The E horizon is neutral or has hue of 5YR or 7.5YR, value of 4 or 5, and chroma of 0 to 2. It is fine sandy loam, loam, or silt loam.

The Bh horizon is neutral or has hue of 2.5YR to 7.5YR, value of 2 or 3, and chroma of 1 or 2. Some pedons have a Bhs or Bs horizon that has hue of 2.5YR, 5YR, or 7.5YR, and value and chroma of 3 or more. The B horizon is fine sandy loam, loam, silt loam, or their gravelly, very gravelly, cobbly, very cobbly, channery, or very channery analogs.

Bedrock is schist or gneiss.

Taconic Series

The Taconic series consists of shallow, somewhat excessively drained soils on hills and mountains. These soils formed in loamy glacial till derived mainly from phyllite, slate, and schist. Slope ranges from 8 to 70 percent.

Taconic soils in most places are near Brayton, Dummerston, Fullam, Macomber, and Hubbardton soils. Brayton soils are very deep and poorly drained. Dummerston soils are very deep and well drained. Fullam soils are very deep and moderately well drained. Macomber soils are moderately deep and well drained. Hubbardton soils are very shallow and excessively drained.

Typical pedon of Taconic channery loam, in an area of Macomber-Taconic complex, 8 to 15 percent slopes, very rocky, in the town of Vernon, 1 mile east of I-91 and 50 feet north of the Vermont-Massachusetts state line:

Oi1—2 inches to 1 inch; undecomposed litter of leaves.

Oi2—1 inch to 0; slightly decomposed litter.

A—0 to 2 inches; very dark brown (10YR 2/2) channery loam; weak fine granular structure; friable; many roots; 24 percent rock fragments; very strongly acid; abrupt wavy boundary.

Bw1—2 to 10 inches; dark yellowish brown (10YR 4/4) channery loam; weak fine subangular blocky

structure; friable; many roots; 30 percent rock fragments; strongly acid; abrupt wavy boundary.
Bw2—10 to 15 inches; dark brown (10YR 3/3) very channery loam; weak medium subangular blocky structure; friable; many roots; 40 percent rock fragments; strongly acid; clear wavy boundary.
Bw3—15 to 19 inches; olive brown (2.5Y 4/4) very channery loam; weak medium subangular blocky structure; friable; common roots; 40 percent rock fragments; strongly acid; clear wavy boundary.
R—19 inches; slate bedrock.

Depth to bedrock and thickness of the solum range from 10 to 20 inches. The content of rock fragments ranges from 10 to 35 percent in the upper part of the solum and from 30 to 60 percent in the lower part. Reaction is very strongly acid or strongly acid throughout.

The A horizon has hue of 10YR and value and chroma of 2 or 3. It is loam, silt loam, or their gravelly or channery analogs.

Bw horizon has hue of 10YR or 2.5Y, value of 3 to 5, and chroma of 3 to 6. It is loam, silt loam, or their gravelly, very gravelly, channery, or very channery analogs.

Some pedons have a C horizon that has hue of 7.5Y or 5Y, value of 4 or 5, and chroma of 2 to 4. Its texture is similar to that of the B horizon.

Bedrock is slate, schist, or phyllite.

Tunbridge Series

The Tunbridge series consists of moderately deep, well drained soils on hills and mountains. These soils formed in loamy glacial till derived mainly from schist, gneiss, and phyllite. Slope ranges from 3 to 50 percent.

Tunbridge soils in most places are near Berkshire, Lyman, Marlow, Monadnock, and Westbury soils. Berkshire, Marlow, and Monadnock soils are very deep and well drained. Lyman soils are shallow and excessively drained. Westbury soils are very deep and somewhat poorly drained.

Typical pedon of Tunbridge fine sandy loam, in an area of Tunbridge-Lyman fine sandy loams, 15 to 25 percent slopes, very rocky, in the town of Brookline, 500 feet west of the Putney town line and 300 feet south of Putney Mountain Road:

Oi—1 inch to 0; undecomposed and slightly decomposed litter of leaves, needles, and twigs.
A—0 to 2 inches; dark brown (10YR 3/3) fine sandy loam; weak fine granular structure; very friable; many roots; 5 percent rock fragments; very strongly acid; clear wavy boundary.
Bhs—2 to 7 inches; dark reddish brown (5YR 3/3) fine sandy loam; weak fine granular structure; friable; many roots; 10 percent rock fragments; weakly smeary; strongly acid; clear wavy boundary.
Bs—7 to 16 inches; dark brown (7.5YR 4/4) fine sandy loam; weak medium subangular blocky structure; friable; common roots; 10 percent rock fragments; weakly smeary; strongly acid; clear broken boundary.
BC—16 to 27 inches; dark brown (10YR 3/3) fine sandy loam; weak fine subangular blocky structure; friable; common roots; 10 percent rock fragments; strongly acid; abrupt wavy boundary.
R—27 inches; schist bedrock.

Depth to bedrock ranges from 20 to 40 inches. The solum ranges from 14 to 38 inches in thickness. The content of rock fragments ranges from 5 to 35 percent throughout. Reaction ranges from extremely acid to moderately acid throughout.

The A horizon is neutral or has hue of 7.5YR or 10YR, value of 2 or 3, and chroma of 0 to 3. It is fine sandy loam or gravelly fine sandy loam.

Some pedons have an E horizon that has hue of 5YR to 10YR, value of 4 to 6, and chroma of 1 or 2. It is fine sandy loam or gravelly fine sandy loam.

The Bhs horizon has hue of 5YR to 10YR and value and chroma of 3/3, 3/4, 3/6, or 4/3. The Bs horizon has hue of 5YR to 10YR and value and chroma of 4 or more. Some pedons have a Bh horizon that has hue of 5YR to 10YR, value of 2 or 3, and chroma of 1 or 2. The B horizon is fine sandy loam, loam, or their gravelly analogs. The combined thickness of the Bh, Bhs, and Bs horizons is 16 inches or less.

The BC horizon has hue of 7.5YR to 2.5Y, value of 3 to 5, and chroma of 3 to 6. It is fine sandy loam, loam, or their gravelly analogs. Some pedons have a Bw horizon. Some pedons have a C horizon.

Bedrock is schist, gneiss, or phyllite.

Udifluvents

Udifluvents consist of very deep, moderately well drained to excessively drained soils on flood plains. These soils formed in loamy alluvium. Slope ranges from 0 to 8 percent.

Udifluvents in most places are near Adams, Podunk, and Rumney soils. Udifluvents have a finer textured substratum than the well drained to excessively drained Adams soils, the moderately well drained Podunk soils, and the very poorly drained Rumney soils.

These soils differ greatly from place to place; thus, a typical pedon is not given. Depth to bedrock is more than 60 inches. The content of rock fragments ranges from 0 to 60 percent throughout.

Udorthents

Udorthents consist of very deep, well drained soils on terraces. These soils formed in loamy glaciofluvial or

glaciolacustrine deposits. Slope ranges from 25 to 50 percent.

Udorthents in most places are near the Agawam, Unadilla, and Windsor soils. Udorthents have a finer textured substratum than Agawam and Windsor soils. They have a thinner solum than Unadilla soils.

These soils differ greatly from place to place; thus, a typical pedon is not given. These soils are susceptible to slippage and pitting. Such downslope movement has obscured or altered the profile; thus, the soils were classified at the great group level.

Depth to bedrock is more than 60 inches. The solum ranges from 0 to 20 inches in thickness. The content of rock fragments ranges from 0 to 5 percent throughout.

Unadilla Series

The Unadilla series consists of very deep, well drained soils on terraces along stream valleys and on glacial lake plains. These soils formed in loamy glaciolacustrine or glaciofluvial deposits. Slope ranges from 0 to 25 percent.

Unadilla soils in most places are near Agawam, Belgrade, Walpole, and Windsor soils. Unadilla soils have a finer textured substratum than the well drained Agawam soils and the somewhat poorly drained and poorly drained Walpole soils. Unadilla soils also have a finer textured subsoil and substratum than the excessively drained Windsor soils. Unlike Unadilla soils, Belgrade soils have mottles in the subsoil.

Typical pedon of Unadilla silt loam, 0 to 3 percent slopes, in the town of Brattleboro, 750 feet west of U.S. Route 5 and 2,200 feet north of the West River:

Ap—0 to 10 inches; very dark grayish brown (10YR 3/2) silt loam; pale olive (5Y 6/3) dry; weak fine granular structure; friable; moderately acid; abrupt smooth boundary.

Bw1—10 to 14 inches; dark yellowish brown (10YR 4/4) silt loam; weak medium subangular blocky structure; friable; moderately acid; clear smooth boundary.

Bw2—14 to 20 inches; olive brown (2.5Y 4/4) silt loam; massive; friable; moderately acid; gradual smooth boundary.

Bw3—20 to 36 inches; light olive brown (2.5Y 5/4) silt loam; massive; very friable; moderately acid; gradual smooth boundary.

C1—36 to 46 inches; olive (5Y 5/4) silt loam; massive; friable; slightly acid; gradual smooth boundary.

C2—46 to 60 inches; olive (5Y 5/4) very fine sandy loam; many medium distinct olive brown (2.5Y 4/4) mottles; massive; friable; slightly acid.

Depth to bedrock is more than 60 inches. The solum ranges from 20 to 40 inches in thickness. The content of rock fragments ranges from 0 to 5 percent throughout. Reaction ranges from very strongly acid to moderately acid in the solum and from strongly acid to slightly acid in the substratum.

The Ap horizon has hue of 10YR or 2.5Y, value of 3 or 4, and chroma of 2 or 3. It is silt loam or very fine sandy loam.

The Bw horizon has hue of 7.5YR to 2.5Y and value and chroma of 4 to 6. It is silt loam or very fine sandy loam.

The C horizon has hue of 2.5Y or 5Y, value of 4 or 5, and chroma of 2 to 4. It is silt loam or very fine sandy loam. Some pedons have a 2C horizon that has hue of 2.5Y or 5Y, value of 4 or 5, and chroma of 2. It is very fine sand, fine sandy, sand, or coarse sand. It is at a depth of more than 40 inches.

Walpole Series

The Walpole series consists of very deep and somewhat poorly drained and poorly drained soils on stream terraces and in other outwash areas. These soils formed in loamy glacial drift underlain by sandy glaciofluvial deposits. Slope ranges from 0 to 3 percent.

Walpole soils in most places are near Agawam, Deerfield, Quonset, and Warwick soils. Walpole soils have an overall grayer color in the subsoil than the well drained Agawam soils, the excessively drained Quonset soils, the somewhat excessively drained Warwick soils, and the moderately well drained Deerfield soils.

Typical pedon of Walpole fine sandy loam, in the town of Rockingham, 500 feet west of I-91 and 1,250 feet south of the road to Golley Hill:

Oi—2 inches to 1 inch; undecomposed litter of leaves and needles.

Oe—1 inch to 0; moderately decomposed leaves and needles.

A—0 to 3 inches; very dark grayish brown (10YR 3/2) fine sandy loam; light brownish gray (2.5Y 6/2) dry; weak coarse granular structure; friable; common roots; strongly acid; abrupt wavy boundary.

Bw1—3 to 11 inches; dark grayish brown (2.5Y 4/2) fine sandy loam; many medium faint olive gray (5Y 4/2) mottles and many medium prominent dark yellowish brown (10YR 4/4) and dark brown (7.5YR 4/4) mottles; weak fine subangular blocky structure; friable, few roots; 10 percent rock fragments; moderately acid; abrupt wavy boundary.

Bw2—11 to 28 inches; olive (5Y 4/3) fine sandy loam; many medium prominent dark brown (7.5YR 4/4) and dark yellowish brown (10YR 4/4) mottles and many medium distinct olive brown (2.5Y 4/4) mottles; weak fine subangular blocky structure; friable; few roots; 10 percent rock fragments; moderately acid; abrupt wavy boundary.

2C—28 to 60 inches; olive gray (5Y 4/2) very gravelly sand; many medium prominent very dark grayish brown (10YR 3/2), dark brown (7.5YR 4/4), and

strong brown (7.5YR 5/6) mottles; single grain; loose; 50 percent rock fragments; moderately acid.

Depth to bedrock is more than 60 inches. The solum ranges from 18 to 28 inches in thickness. The content of rock fragments ranges from 0 to 15 percent in the solum and from 0 to 50 percent in the substratum. Reaction is strongly acid or moderately acid throughout.

The A horizon has hue of 10YR, value of 2 or 3, and chroma of 1 or 2. It is fine sandy loam or sandy loam.

The Bw horizon has hue of 10YR to 5Y, value of 4 to 6, and chroma of 1 to 3. It is fine sandy loam or sandy loam.

The 2C horizon has hue of 10YR to 5Y, value of 4 to 6, and chroma of 2 to 4. It is loamy sand, sand, or their gravelly or very gravelly analogs.

Warwick Series

The Warwick series consists of very deep, somewhat excessively drained soils on stream terraces and other outwash areas. These soils formed in loamy and gravelly glaciofluvial deposits derived mainly from phyllite, slate, or shale and in sandy and gravelly glaciofluvial deposits. Slope ranges from 2 to 70 percent.

Warwick soils in the survey area were mapped only in an undifferentiated group with Quonset soils. They are also near Agawam, Deerfield, Walpole, and Windsor soils. Warwick soils have a finer textured subsoil and more rock fragments in the subsoil than the excessively drained Windsor soils. Unlike Warwick soils, the somewhat poorly drained and poorly drained Walpole soils have mottles in the subsoil and substratum.

Typical pedon of Warwick very gravelly loam, in an area of Quonset and Warwick soils, 2 to 8 percent slopes, in the town of Vernon, 2,500 feet west of the railroad underpass on West Road and 300 feet south of the entrance to Edgewood Park:

Oi—2 inches to 1 inch; undecomposed needles and twigs.

Oe—1 inch to 0; moderately decomposed needles and twigs.

A—0 to 2 inches; dark reddish brown (5YR 2/2) very gravelly loam; weak medium granular structure; friable; many roots; 40 percent rock fragments; very strongly acid; abrupt smooth boundary.

Bw1—2 to 9 inches; dark brown (7.5YR 4/4) very gravelly loam; weak fine granular structure; friable; many roots; 40 percent rock fragments; strongly acid; gradual wavy boundary.

Bw2—9 to 20 inches; dark yellowish brown (10YR 4/4) very gravelly loam; weak fine granular structure; friable; common roots; 40 percent rock fragments; very strongly acid; clear wavy boundary.

BC—20 to 24 inches; light olive brown (2.5Y 4/4) very gravelly coarse sandy loam; weak fine granular structure; friable; common roots; 55 percent rock fragments; strongly acid; abrupt wavy boundary.

2C—24 to 60 inches; olive (5Y 4/3) very gravelly loamy coarse sand; single grain; loose; few roots; 60 percent rock fragments; strongly acid.

Depth to bedrock is more the 60 inches. The solum ranges from 20 to 30 inches in thickness. The content of rock fragments ranges from 10 to 60 percent in the solum and from 40 to 75 percent in the substratum. Reaction ranges from extremely acid to moderately acid in the solum and from strongly acid to slightly acid in the substratum.

The A horizon has hue of 5YR, 7.5YR, or 10YR, value of 2 or 3, and chroma of 1 or 2. It is sandy loam, fine sandy loam, loam, or their gravelly or very gravelly analogs. In cultivated areas pedons have an Ap horizon.

The Bw1 horizon has hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 4 to 6. The Bw2 horizon has hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 4 to 6. The Bw horizon is sandy loam, fine sandy loam, loam, or their gravelly or very gravelly analogs. The BC horizon has hue of 10YR or 2.5Y and value and chroma of 4 or 5. It is coarse sandy loam, sandy loam, loamy sand, or their gravelly or very gravelly analogs.

The 2C horizon has hue of 10YR, 2.5Y, or 5Y, value of 2 to 4, and chroma of 1 to 4. It is loamy sand, loamy coarse sand, sand, coarse sand, or their gravelly or very gravelly analogs.

Westbury Series

The Westbury series consists of very deep, somewhat poorly drained soils on hills and in other upland areas. These soils formed in compact, loamy glacial till. Slope ranges from 3 to 25 percent.

Westbury soils in most places are near Berkshire, Lupton, Lyman, Markey, Marlow, and Tunbridge soils. Unlike Westbury soils, the well drained Berkshire, Lyman, Marlow and Tunbridge soils have mottles in the subsoil and substratum. Lyman soils are shallow. Tunbridge soils are moderately deep.

Unlike Westbury soils, the very poorly drained Lupton and Markey soils have organic layers.

Typical pedon of Westbury fine sandy loam, 3 to 8 percent slopes, in the town of Brattlesboro, 5,200 feet west of U.S. Route 5 and 300 feet north of Ames Hill Road:

Ap—0 to 6 inches; very dark brown (10YR 2/2) fine sandy loam; weak medium granular structure; friable; many roots; 10 percent rock fragments; moderately acid; abrupt smooth boundary.

Bhs—6 to 12 inches; dark brown (10YR 3/3) fine sandy loam; many medium prominent olive gray (5Y 4/2) and many medium faint dark brown (7.5YR 3/2) mottles; weak fine and medium subangular blocky

structure; friable; many roots; 14 percent rock fragments; moderately acid; abrupt wavy boundary.

E—12 to 15 inches; gray (N5/0) fine sandy loam; many coarse distinct yellowish brown (10YR 5/4) mottles; weak medium subangular blocky structure; friable; common roots; 10 percent rock fragments; moderately acid; abrupt wavy boundary.

Cr—15 to 28 inches; olive (5Y 4/3) gravelly fine sandy loam; many medium faint olive gray (5Y 4/2) and many medium distinct olive brown (2.5Y 4/4) mottles; moderate very coarse prismatic structure separating to moderately thick platy; very firm; 20 percent rock fragments; moderately acid; abrupt smooth boundary.

C—28 to 60 inches; olive (5Y 4/3) gravelly fine sandy loam; many medium faint olive gray (5Y 4/2) and many medium prominent dark yellowish brown (10YR 4/4) mottles; massive; friable; 25 percent rock fragments; slightly acid.

Depth to bedrock is more than 60 inches. The solum ranges from 14 to 24 inches in thickness. The content of rock fragments ranges from 5 to 35 percent in the solum and from 20 to 50 percent in the substratum. Reaction is strongly acid or moderately acid in the solum and ranges from strongly acid to neutral in the substratum.

The Ap horizon has hue of 10YR, value of 2 or 3, and chroma of 1 or 2. It is silt loam, fine sandy loam, loam, very fine sandy loam, or their gravelly analogs.

The Bhs horizon has hue of 7.5YR or 10YR and value and chroma of 3/3, 3/4, 3/6, or 4/3. Some pedons have Bh and Bs horizons. The B horizon is silt loam, loam, very fine sandy loam, or fine sandy loam. The combined thickness of the Bh, Bhs, and Bs horizons ranges from 4 to 12 inches.

The E horizon is neutral or has hue of 10YR or 2.5Y, value of 5 to 7, and chroma of 0 to 2. It is sandy loam, fine sandy loam, loam, or their gravelly analogs. Some pedons do not have an E horizon.

The Cr horizon has hue of 2.5Y or 5Y, value of 3 to 5, and chroma of 1 to 3. The C horizon has hue of 5Y, value of 4 or 5, and chroma of 1 to 3. The Cr and C horizons are loam, fine sandy loam, sandy loam, or their gravelly or very gravelly analogs.

Westbury soils in this survey area are a taxadjunct to the Westbury series because they have a dense, compact substratum below the spodic horizon instead of a fragipan and because in a subhorizon in the spodic horizon the ratio of free iron to carbon is less than 0.2. This difference does not significantly affect the use and management of these soils.

Wilmington Series

The Wilmington series consists of very deep, poorly drained soils in upland areas. These soils formed in compact, loamy glacial till derived mainly from schist or gneiss. Slopes ranges from 2 to 8 percent.

Wilmington soils in most places are near Hogback, Houghtonville, Lupton, Markey, Mundal, Rawsonville, and Worden soils. Unlike the well drained Hogback, Houghtonville, and Rawsonville soils, and the somewhat poorly drained Worden soils, Wilmington soils have grayish colored mottles in the subsoil. Hogback soils are shallow. Rawsonville soils are moderately deep, Unlike Wilmington soils, the very poorly drained Lupton and Markey soils have organic layers.

Typical pedon of Wilmington very fine sandy loam, in an area of Wilmington very fine sandy loam, 2 to 8 percent slopes, very stony, in the town of Dover, 300 feet west of Cheney Brook, and 3,100 feet north of Valley View Road:

Oi1—2 inches to 1 inch; undecomposed leaves, needles, and twigs.

Oi2—1 inch to 0; slightly decomposed litter.

A—0 to 2 inches; very dark brown (10YR 2/2) very fine sandy loam; moderate medium and coarse granular structure; very friable; many roots; 10 percent rock fragments; strongly acid; abrupt wavy boundary.

Bh1—2 to 9 inches; very dark grayish brown (10YR 3/2) silt loam; few fine faint dark grayish brown (10YR 4/2) mottles; weak medium and coarse granular structure; very friable; many roots; 10 percent rock fragments; moderately smeary; strongly acid; clear wavy boundary.

Bh2—9 to 16 inches; very dark grayish brown (10YR 3/2) very fine sandy loam; common medium faint dark brown (10YR 4/3) mottles; weak medium and coarse granular structure; friable; many roots; 10 percent rock fragments; moderately smeary; strongly acid; abrupt wavy boundary.

Bh3—16 to 19 inches; very dark grayish brown (10YR 3/2) very fine sandy loam; common medium distinct dark grayish brown (2.5Y 4/2) mottles; massive; friable; few roots; 10 percent rock fragments; moderately smeary; moderately acid; clear smooth boundary.

Crg1—19 to 33 inches; dark grayish brown (2.5Y 4/2) fine sandy loam; few coarse prominent yellowish red (5YR 4/6) mottles; massive; firm; 14 percent rock fragments; moderately acid; clear smooth boundary.

Crg2—33 to 53 inches; gray (5Y 5/1) fine sandy loam; massive; firm; 10 percent rock fragments; moderately acid; clear wavy boundary.

Cr—53 to 60 inches; olive (5Y 4/3) gravelly fine sandy loam; few fine prominent yellowish brown (10YR 5/4) mottles; massive; firm; 20 percent rock fragments; moderately acid.

Depth to bedrock is more than 60 inches. The solum ranges from 12 to 24 inches in thickness. The content of rock fragments ranges from 5 to 35 percent throughout. Reaction ranges from extremely acid to moderately acid

in the solum and from strongly acid to slightly acid in the substratum.

The A horizon is neutral or has hue of 7.5YR or 10YR, value of 2 or 3, and chroma of 0 to 2. It is very fine sandy loam, fine sandy loam, loam, silt loam, or their gravelly analogs.

The Bh horizon has hue of 5YR to 10YR, value of 2 or 3, and chroma of 1 or 2. Some pedons have a Bhs horizon that has hue of 7.5YR or 10YR and value and chroma of 3/3, 3/4. or 4/3. The B horizon is silt loam, loam, very fine sandy loam, or their gravelly analogs.

The C horizon has hue of 2.5Y or 5Y, value of 4 or 5, and chroma of 1 to 4. The C horizon is fine sandy loam, very fine sandy loam, loam, silt loam, or their gravelly analogs.

Windsor Series

The Windsor series consists of very deep, excessively drained soils on terraces along stream valleys. These soils formed in sandy glaciofluvial deposits. Slope ranges from 2 to 60 percent.

Windsor soils are near Agawam, Deerfield, Quonset, Warwick, and Unadilla soils. Windsor soils have more sand in the subsoil than Agawam, Unadilla, and Warwick soils. They have less rock fragments, by volume, throughout the pedon than Quonset soils. Unlike Windsor soils, Deerfield soils have mottles in the subsoil and substratum.

Typical pedon of Windsor loamy fine sandy, 25 to 60 percent slopes, in the town of Westminister, 3,400 feet south of the Rockingham town line and 250 feet east of I-91:

Oi—3 to 2 inches; undecomposed litter of leaves, needles, and twigs.
Oe—2 inches to 0; moderately decomposed litter.
A—0 to 3 inches; very dark grayish brown (10YR 3/2) loamy fine sand; weak medium granular structure; very friable; many roots; very strongly acid; abrupt wavy boundary.
Bw1—3 to 8 inches; dark brown (7.5YR 4/4) loamy fine sandy; weak fine granular structure; very friable; many roots; 2 percent coarse fragments; strongly acid; clear wavy boundary.
Bw2—8 to 14 inches; olive brown (2.5Y 4/4) loamy fine sandy; single grain; very friable; many roots; 2 percent rock fragments; strongly acid; clear wavy boundary.
BC—14 to 26 inches; light olive brown (2.5Y 5/4) fine sand; single grain; loose; many roots; 2 percent rock fragments; moderately acid; gradual wavy boundary.
C1—26 to 33 inches; olive (5Y 5/3) sand; single grain; loose; common roots; 5 percent rock fragments; moderately acid; gradual smooth boundary.
C2—33 to 44 inches; olive gray (5Y 5/2) and pale olive (5Y 6/3) sand; single grain; loose; few roots; 10 percent rock fragments; moderately acid; gradual smooth boundary.
C3—44 to 60 inches; light olive gray (5Y 6/2) sand; single grain; loose; moderately acid.

Depth to bedrock is more than 60 inches. The solum ranges from 20 to 32 inches in thickness. The content of coarse fragments ranges from 0 to 10 percent in the solum and from 0 to 15 percent in the substratum. Reaction ranges from very strongly acid to moderately acid in the solum and from very strongly acid to slightly acid in the substratum.

The A horizon has hue of 10YR, value of 3 or 4, and chroma of 2 to 4. It is loamy fine sandy or loamy sand. In cultivated areas pedons have an Ap horizon.

The Bw1 horizon has hue of 7.5YR to 2.5Y, value of 4 or 5, and chroma of 4 to 6. It is loamy fine sand or loamy sand. The Bw2 or BC horizons have hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 3 to 6. The Bw2 and BC horizons are loamy fine sand, fine sand, loamy sand, or sand.

The C horizon has hue of 2.5Y or 5Y, value of 4 to 6, and chroma of 2 to 6. It is fine sand or sand.

Winooski Series

The Winooski series consists of very deep, moderately well drained soils on flood plains. These soils formed in loamy alluvial deposits. Slope ranges from 0 to 3 percent.

Winooski soils in most places are near Hadley and Limerick soils. Unlike the well drained Hadley soils, Winooski soils have mottles in the lower part of the substratum. Unlike Winooski soils, Limerick soils have mottles in the upper part of the substratum.

Typical pedon of Winooski silt loam, in the town of Putney, 100 feet south of Putney Brook and 300 feet west of the Connecticut River:

Ap—0 to 7 inches; very dark grayish brown (2.5Y 3/2) silt loam; light brownish gray (10YR 6/2) dry; weak fine granular structure; friable; neutral; abrupt smooth boundary.
C1—7 to 14 inches; dark grayish brown (2.5Y 4/2) silt loam; massive; friable; neutral; gradual smooth boundary.
C2—14 to 20 inches; dark grayish brown (2.5Y 4/4) and few fine prominent dark brown (7.5YR 3/2) mottles; massive; friable; neutral; gradual smooth boundary.
C3—20 to 60 inches; dark olive gray (5Y 3/2) silt loam; many medium prominent dark reddish brown (5YR 2/2) and dark brown (7.5YR 3/2) mottles; massive; friable; neutral.

Depth to bedrock is more than 60 inches. The content of rock fragments ranges from 0 to 5 percent throughout.

Reaction ranges from very strongly acid to neutral throughout.

The Ap horizon has hue of 10YR or 2.5Y, value of 3 or 4, and chroma of 2 or 3. It is silt loam or very fine sandy loam.

The C horizon has hue of 2.5Y or 5Y, value of 3 to 5, and chroma of 2 or 3. It is silt loam, very fine sandy loam, or loamy very fine sand.

Worden Series

The Worden series consists of very deep, somewhat poorly drained soils on hills and in other upland areas. These soils formed in compact, loamy glacial till derived mainly from schist or gneiss. Slope ranges from 3 to 25 percent.

Worden soils in most places are near Hogback, Houghtonville, Mundal, Rawsonville, and Wilmington soils. Worden soils have mottles in the subsoil; the well drained Hogback, Houghtonville, and Rawsonville soils and the well drained and moderately well drained Mundal soils do not. Also, Hogback soils are shallow, and Rawsonville soils are moderately deep. Unlike Worden soils, Wilmington soils have grayish colored mottles in the subsoil.

Typical pedon of Worden loam, in an area of Worden loam, 8 to 15 percent slopes, very bouldery, in the town of Dover, on Johnson Hill, 70 feet west of the logging road and 2,000 feet north of the end of Maple Road:

Oi1—5 to 3 inches; undecomposed litter of hardwood leaves and twigs.

Oi2—3 inches to 0; slightly decomposed litter.

A—0 to 2 inches; very dark grayish brown (10YR 3/2) loam; weak fine and medium granular structure; very friable; many roots; strongly acid; clear wavy boundary.

Bh—2 to 10 inches; dark reddish brown (5YR 3/2) loam; weak fine and medium subangular blocky structure; very friable; many roots; 10 percent rock fragments; strongly smeary; strongly acid; clear wavy boundary.

Bhs—10 to 14 inches; dark brown (10YR 3/3) gravelly fine sandy loam; common medium faint dark brown (10YR 4/3) and yellowish brown (10YR 5/4) mottles; weak very thick platy structure parting to weak medium and coarse subangular blocky; friable; few roots; 20 percent rock fragments; moderately smeary; strongly acid; gradual wavy boundary.

Bs—14 to 18 inches; olive brown (2.5Y 4/4) gravelly fine sandy loam; common coarse prominent dark red (2.5YR 3/6) and common coarse distinct yellowish brown (10YR 5/4) mottles; weak very thick platy structure separating to weak medium and coarse subangular blocky; firm; few roots; 20 percent rock fragments; weakly smeary; moderately acid; gradual wavy boundary.

Cr1—18 to 50 inches; olive brown (2.5Y 4/4) gravely fine sandy loam; common coarse distinct olive (5Y 5/3) and common coarse prominent dark red (2.5YR 3/6) mottles; very coarse prismatic structure; firm; 20 percent rock fragments; moderately acid; clear wavy boundary.

Cr—50 to 60 inches; dark yellowish brown (10YR 4/4) gravelly fine sandy loam; few coarse faint dark brown (7.5YR 4/4) and few coarse prominent olive gray (5Y 5/2) mottles; massive; friable; 20 percent rock fragments; slightly acid.

Depth to bedrock is more than 60 inches. The solum ranges from 18 to 32 inches in thickness. The content of rock fragments ranges from 0 to 25 percent throughout. Reaction ranges from extremely acid to moderately acid in the solum and from strongly acid to slightly acid in the substratum.

The A horizon is neutral or has hue of 10YR, value of 2 or 3, and chroma of 0 to 3. It is fine sandy loam, silt loam, loam, or their gravelly analogs.

The Bh horizon has hue of 2.5YR to 10YR, value of 2 or 3, and chroma of 1 or 2. The Bhs horizon has hue of 5YR to 10YR and value and chroma of 3/3, 3/4, 3/6, or 4/3. The Bs horizon has hue of 7.5YR to 2.5Y and value and chroma of 4 or more. The B horizon is fine sandy loam, silt loam, sandy loam, loam, or their gravelly analogs. The combined thickness of the Bh, Bhs, and Bs horizons is more than 12 inches.

The Cr horizon has hue of 10YR to 5Y, value of 4 or 5, and chroma of 2 to 4. It is loam, silt loam, fine sandy loam, or their gravelly analogs.

Bedrock is slate, schist, or phyllite.

Formation of the Soils

The paragraphs that follow describe the factors of soil formation, relate them to the formation of soils in the survey area, and explain the processes of soil formation.

Factors of Soil Formation

Soil forms through the interaction of five major factors: the physical, chemical, and mineral composition of parent material, the climate under which soil material has accumulated and existed since accumulation, the plant and animal life on and in the soil, the relief or lay of the land, and the length of time the processes of soil formation have acted on parent material (*3*).

Climate and plant and animal life are the active forces in soil formation. They slowly change the parent material into a natural body of soil that has genetically related layers called horizons. The effects of climate and plant and animal life are conditioned by relief. The nature of the parent material also affects the kind of soil profile that is formed and, in very few soils, even determines it almost entirely. Finally, a period of time, which can be long or short, is needed for changing the parent material into a soil profile with differentiated horizons. Generally, a long time is required for the formation of distinct horizons.

The factors of soil formation are so closely interrelated that few generalizations can be made regarding the effect of any one factor unless conditions are specified for the other four. Many of the processes of soil formation are unknown.

Parent Material

Parent material is the unconsolidated mass in which a soil forms. Most of the parent material of the soils in Windham County was deposited by melt water from glaciers that covered all of the New England States about 12,000 years ago. Some of these materials were reworked and redeposited by subsequent actions of water and wind.

Parent material determines the chemical and mineralogical composition of the soil. Even though most of the parent material in Windham County is of common glacial origin, its properties vary greatly, sometimes within small areas, depending on how the materials were deposited. The parent material was deposited as glacial till, outwash deposits, lacustrine deposits, alluvium, and organic material.

Glacial till was laid down directly by glaciers and reworked minimally by water action. It is a mixture of particles varying widely in size and shape. The small pebbles in glacial till have not been worn by water washing; thus, they have sharp corners. The glacial till in Windham County is acid and loamy. Berkshire soils formed in glacial till.

Outwash deposits were sorted and deposited by running glacial melt water. The size of the particles that make up outwash deposits varies according to the streamflow that carried them. As the streamflow lessened, the coarser particles were deposited first. Slowly moving water carried only finer particles, such as very fine sand, silt, and clay. Outwash deposits generally consist of layers of soil particles of similar size, such as sandy loam and sand, and coarse fragments, such as gravel. Windsor soils formed in outwash deposits of sands.

Lacustrine deposits were deposited by still, or ponded, glacial melt water. The coarser particles and the rock fragments had dropped out of the moving water as outwash, so only the finer particles, such as very fine sand, silt, and clay, remained to settle out in still water. In Windham County, the soils that formed in lacustrine deposits typically are very fine sandy loam and silt loam. Unadilla soils formed in lacustrine deposits.

Alluvium is material deposited on land by floodwaters of streams in recent time. Its range in texture depends on the speed of the water that deposited it. Hadley soils formed in alluvium.

Organic material consists mainly of plant remains. After the glaciers receded in the area, water stood in depressions on outwash terraces, flood plains, and uplands, including mountains. The water areas, or ponds, were surrounded by grasses and sedges, which died and fell into the water. The undecomposed plant remains accumulated in the water and closed in the edges of the ponds. Later, water-tolerant trees grew in and around the ponds. The remains of these trees also accumulated in the water. In this way, the ponds were filled in with organic material, which decomposed and thus developed into areas of organic soils. Lupton soils formed in organic material.

Plant and Animal Life

Green plants have been the principal organism influencing the soils in Windham County, but animals,

bacteria, fungi, earthworms, and human activities have also been important. Chiefly, plant life has added organic matter and nitrogen to the soil. The kind of organic material on and in the soil depends on the kinds of plants that grew on the soil. The plant remains accumulated on the surface, decayed, and eventually became organic matter. The roots of plants provided channels for the downward movement of water through the soil and added organic matter to the soil as they decayed. Bacteria in the soil helped to break down the organic matter and release nutrients needed by plants.

Climate

Climate determines the kind of plant and animal life on and in the soil and the amount of water available for weathering of minerals and transporting soil material. Climate, through its influence on temperatures in the soil, determines the rate of chemical and biological activity in the soil. In cool areas and in areas saturated for long periods, the level of biological activity is low and organic matter accumulates.

Presumably, the cool and humid climate in Windham County is similar to that which existed when the soils formed. The climate in the county differs. There are three soil temperature regimes in the county. Soil temperature regimes are defined in Soil Taxonomy (*7*).

Agawam, Hadley, and Windsor soils are at low elevations near the Connecticut River. They have a mesic soil temperature regime. Adams, Berkshire, and Hogback soils are at high elevations and have a frigid soil temperature regime. Glebe, Londonderry, and Stratton soils are at the highest elevations in the Green Mountains. They have a cryic soil temperature regime.

Relief

Relief or lay of the land has had a marked influence on the soils in the county through its influence on natural drainage, erosion, plant cover, and soil temperature. Slope in the county ranges from 0 to 70 percent. The soils range from excessively drained to well drained on hilltops and mountaintops to poorly drained and very poorly drained in depressions.

Relief influences the formation of soils by affecting runoff and drainage. On the steeper slopes, runoff is greatest and the soils are better drained. Downslope, the soils are drained more slowly. In some low-lying areas the soils are temporarily ponded. Water and air move freely through soils that are well drained and slowly through soils that are very poorly drained. Drainage, in turn, through its affect on aeration of the soil, determines the color of the soil. Well aerated soils are brightly colored because the iron and aluminum compounds in them have been oxidized. Poorly aerated soils are dull gray and mottled. Houghtonville and Wilmington soils formed in similar parent material. Houghtonville soils are well drained and well aerated; however, Wilmington soils are poorly drained and poorly aerated.

Time

Time, usually a long time, is required for the processes of soil formation to develop distinct horizons from parent material. The differences in time that the parent material has been in place commonly are reflected in the degree of development of the soil profile. Some soils develop rapidly, others slowly.

The soils in Windham County range from young to mature. The soils that formed in glacial deposits have been exposed to soil-forming factors long enough to allow the development of distinct horizons. Monadnock soils, which formed in glacial deposits, are mature soils that have distinct horizons. Soils that formed in alluvium have not been in place long enough for distinct horizons to develop. Hadley soils are young soils that formed in alluvium.

Processes of Soil Formation

The most important soil-forming processes that have differentiated horizons in the soils in Windham County are the accumulation and distribution of organic matter; the chemical weathering of primary minerals into silicate clay minerals and their transfer to deeper layers; chemical changes, such as oxidation, reduction, and hydration, and the transfer or loss of the products of these changes; and the mechanical breakdown of rock fragments into fine fragments.

Certain processes tend to modify, retard, or reverse the effects of soil-forming processes. The most important of these are the mixing of soil by windthrow, animal activity, or frost action, the deposition of fresh soil material, and the interception and recycling of leached bases by plants.

Organic matter has accumulated to some degree in all of the soils in the county. Lupton soils formed in accumulated organic material for which the rate of decomposition has been retarded by saturation and climate. The color of the surface layer of mineral soils is an indication of the content of organic matter. In Wilmington soils, the surface layer is black or very dark grayish brown because of the high organic matter content. The organic matter content in the A horizon of most soils in the county is much greater than that below the A horizon. One exception is soils that formed in recent alluvium and have enough organic matter to appreciably affect their color to a depth of 24 inches or more. Another exception is soils in which iron and aluminum oxides have been leached from the surface and subsurface layers to the subsoil. In such soils as Houghtonville and Rawsonville soils, the subsoil, especially in the upper part, is higher in organic matter content than the subsurface layer.

The parent material of the soils in the county has only small amounts of clay; apparently, only small amounts have been produced in soil formation. Therefore, little

clay has accumulated in the subsoil. In many of the soils chemical changes have been important in horizon differentiation. In some soils sesquioxides have moved from the subsurface horizon to the lower horizons and have formed metal-organic complexes. The complexes are precipitated in the subsoil as iron oxides, which color the subsoil reddish or brownish.

The horizons of many soils in the survey area have a characteristic morphology as a result of being saturated for extended periods. Mottling results when iron is reduced and segregated, as in the lower horizons of Fullam and Belgrade soils. Gleying results when a horizon is subjected to intense reduction during soil development, as were the horizons in Wilmington soils.

The mechanical breakdown of rock fragments in the survey area has been brought about mainly by freezing and thawing. This is evident in soils that formed in glacial till, which have many angular coarse fragments.

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Glossary

Aggregate, soil. Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

Alluvium. Material, such as sand, silt, or clay, deposited on land by streams.

Area reclaim (in tables). An area difficult to reclaim after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.

Association, soil. A group of soils geographically associated in a characteristic repeating pattern and defined and delineated as a single map unit.

Available water capacity (available moisture capacity). The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as—

	Inches
Very low	less than 2.4
Low	2.4 to 3.2
Moderate	3.2 to 5.2
High	more than 5.2

Bedrock. The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.

Boulders. Rock fragments larger than 2 feet (60 centimeters) in diameter.

Cation. An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.

Cation-exchange capacity. The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity, but is more precise in meaning.

Channery soil. A soil that is, by volume, more than 15 percent thin, flat fragments of sandstone, shale, slate, limestone, or schist as much as 6 inches along the longest axis. A single piece is called a channer.

Clay. As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Cobblestone (or cobble). A rounded or partly rounded fragment of rock 3 to 10 inches (7.5 to 25 centimeters) in diameter.

Conservation tillage. A tillage and planting system in which crop residue covers at least 30 percent of the soil surface after planting. Where soil erosion by wind is the main concern, the system leaves the equivalent of at least 1,000 pounds per acre of flat small-grain residue on the surface during the critical erosion period.

Consistence, soil. The feel of the soil and the ease with which a lump can be crushed by the fingers. Terms commonly used to describe consistence are—

Loose.—Noncoherent when dry or moist; does not hold together in a mass.

Friable.—When moist, crushes easily under gentle pressure between thumb and forefinger and can be pressed together into a lump.

Firm.—When moist, crushes under moderate pressure between thumb and forefinger, but resistance is distinctly noticeable.

Plastic.—When wet, readily deformed by moderate pressure but can be pressed into a lump; will form a "wire" when rolled between thumb and forefinger.

Sticky.—When wet, adheres to other material and tends to stretch somewhat and pull apart rather than to pull free from other material.

Hard.—When dry, moderately resistant to pressure; can be broken with difficulty between thumb and forefinger.

Soft.—When dry, breaks into powder or individual grains under very slight pressure.

Cemented.—Hard; little affected by moistening.

Contour stripcropping. Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.

Control section. The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.

Cover crop. A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.

Cutbanks cave (in tables). The walls of excavations tend to cave in or slough.

Deferred grazing. Postponing grazing or resting grazing land for a prescribed period.

Dense layer (in tables). A very firm, massive layer that has a bulk density of more than 1.8 grams per cubic centimeter. Such a layer affects the ease of digging and can affect filling and compacting.

Depth to rock (in tables). Bedrock is too near the surface for the specified use.

Diversion (or diversion terrace). A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

Drainage class (natural). Refers to the frequency and duration of periods of saturation or partial saturation during soil formation, as opposed to altered drainage, which is commonly the result of artificial drainage or irrigation but may be caused by the sudden deepening of channels or the blocking of drainage outlets. Seven classes of natural soil drainage are recognized:

Excessively drained.—Water is removed from the soil very rapidly. Excessively drained soils are commonly very coarse textured, rocky, or shallow. Some are steep. All are free of the mottling related to wetness.

Somewhat excessively drained.—Water is removed from the soil rapidly. Many somewhat excessively drained soils are sandy and rapidly pervious. Some are shallow. Some are so steep that much of the water they receive is lost as runoff. All are free of the mottling related to wetness.

Well drained.—Water is removed from the soil readily, but not rapidly. It is available to plants throughout most of the growing season, and wetness does not inhibit growth of roots for significant periods during most growing seasons. Well drained soils are commonly medium textured. They are mainly free of mottling.

Moderately well drained.—Water is removed from the soil somewhat slowly during some periods. Moderately well drained soils are wet for only a short time during the growing season, but periodically they are wet long enough that most mesophytic crops are affected. They commonly have a slowly pervious layer within or directly below the solum, or periodically receive high rainfall, or both.

Somewhat poorly drained.—Water is removed slowly enough that the soil is wet for significant periods during the growing season. Wetness markedly restricts the growth of mesophytic crops unless artificial drainage is provided. Somewhat poorly drained soils commonly have a slowly pervious layer, a high water table, additional water from seepage, nearly continuous rainfall, or a combination of these.

Poorly drained.—Water is removed so slowly that the soil is saturated periodically during the growing season or remains wet for long periods. Free water is commonly at or near the surface for long enough during the growing season that most mesophytic crops cannot be grown unless the soil is artificially drained. The soil is not continuously saturated in layers directly below plow depth. Poor drainage results from a high water table, a slowly pervious layer within the profile, seepage, nearly continuous rainfall, or a combination of these.

Very poorly drained.—Water is removed from the soil so slowly that free water remains at or on the surface during most of the growing season. Unless the soil is artificially drained, most mesophytic crops cannot be grown. Very poorly drained soils are commonly level or depressed and are frequently ponded. Yet, where rainfall is high and nearly continuous, they can have moderate or high slope gradients.

Drainage, surface. Runoff, or surface flow of water, from an area.

Eluviation. The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.

Erosion. The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

Erosion (geologic). Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

Erosion (accelerated). Erosion much more rapid than geologic erosion, mainly as a result of the activities of man or other animals or of a catastrophe in nature, for example, fire, that exposes the surface.

Esker (geology). A narrow, winding ridge of stratified gravelly and sandy drift deposited by a stream flowing in a tunnel beneath a glacier.

Excess fines (in tables). Excess silt and clay in the soil. The soil is not a source of gravel or sand for construction purposes.

Fertility, soil. The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

Fibric soil material (peat). The least decomposed of all organic soil material. Peat contains a large amount

of well preserved fiber that is readily identifiable according to botanical origin. Peat has the lowest bulk density and the highest water content at saturation of all organic soil material.

Flagstone. A thin fragment of sandstone, limestone, slate, shale, or (rarely) schist, 6 to 15 inches (15 to 38 centimeters) long.

Flood plain. A nearly level alluvial plain that borders a stream and is subject to flooding unless protected artificially.

Foot slope. The inclined surface at the base of a hill.

Forb. Any herbaceous plant not a grass or a sedge.

Fragile (in tables). A soil that is easily damaged by use or disturbance.

Frost action (in tables). Freezing and thawing of soil moisture. Frost action can damage roads, buildings and other structures, and plant roots.

Genesis, soil. The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.

Glacial drift (geology). Pulverized and other rock material transported by glacial ice and then deposited. Also the sorted and unsorted material deposited by streams flowing from glaciers.

Glacial outwash (geology). Gravel, sand, and silt, commonly stratified, deposited by glacial melt water.

Glacial till (geology). Unsorted, nonstratified glacial drift consisting of clay, silt, sand, and boulders transported and deposited by glacial ice.

Glaciofluvial deposits (geology). Material moved by glaciers and subsequently sorted and deposited by streams flowing from the melting ice. The deposits are stratified and occur as kames, eskers, deltas, and outwash plains.

Glaciolacustrine deposits. Material ranging from fine clay to sand derived from glaciers and deposited in glacial lakes mainly by glacial melt water. Many deposits are interbedded or laminated.

Grassed waterway. A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.

Gravel. Rounded or angular fragments of rock up to 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.

Gravelly soil material. Material that is 15 to 50 percent, by volume, rounded or angular rock fragments, not prominently flattened, up to 3 inches (7.6 centimeters) in diameter.

Grazing capacity. The maximum stocking rate possible without inducing damage to vegetation or related resources. The rate may vary from year to year.

Green manure crop (agronomy). A soil-improving crop grown to be plowed under in an early stage of maturity or soon after maturity.

Ground water (geology). Water filling all the unblocked pores of underlying material below the water table.

Hemic soil material (mucky peat). Organic soil material intermediate in degree of decomposition between the less decomposed fibric and the more decomposed sapric material.

Horizon, soil. A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. The major horizons are as follows:

O horizon.—An organic layer of fresh and decaying plant residue.

A horizon.—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, any plowed or disturbed surface layer.

E horizon.—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

B horizon.—The mineral horizon below an O, A, or E horizon. The B horizon is in part a layer of transition from the overlying horizon to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) granular, prismatic, or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

C horizon.—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying horizon. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

R layer.—Hard, consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon but can be directly below an A or a B horizon.

Humus. The well decomposed, more or less stable part of the organic matter in mineral soils.

Hydrologic soil groups. Refers to soils grouped according to their runoff-producing characteristics. The chief consideration is the inherent capacity of soil bare of vegetation to permit infiltration. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff. Soils are assigned to four groups. In group A are soils having a high infiltration rate when thoroughly wet and having a low runoff potential. They are mainly deep, well drained, and sandy or gravelly. In group D, at the other extreme, are soils having a very slow infiltration rate and thus a high runoff potential. They have a claypan or clay layer at or near the surface,

have a permanent high water table, or are shallow over nearly impervious bedrock or other material. A soil is assigned to two hydrologic groups if part of the acreage is artificially drained and part is undrained.

Illuviation. The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

Infiltration. The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Kame (geology). An irregular, short ridge or hill of stratified glacial drift.

Lacustrine deposit (geology). Material deposited in lake water and exposed when the water level is lowered or the elevation of the land is raised.

Large stones (in tables). Rock fragments 3 inches (7.6 centimeters) or more across. Large stones adversely affect the specified use of the soil.

Liquid limit. The moisture content at which the soil passes from a plastic to a liquid state.

Loam. Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

Low strength. The soil is not strong enough to support loads.

Metamorphic rock. Rock of any origin altered in mineralogical composition, chemical composition, or structure by heat, pressure, and movement. Nearly all such rocks are crystalline.

Morphology, soil. The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

Mottling, soil. Irregular spots of different colors that vary in number and size. Mottling generally indicates poor aeration and impeded drainage. Descriptive terms are as follows: abundance—*few, common,* and *many*; size—*fine, medium,* and *coarse*; and contrast—*faint, distinct,* and *prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium*, from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse*, more than 15 millimeters (about 0.6 inch).

Muck. Dark colored, finely divided, well decomposed organic soil material. (See Sapric soil material.)

Munsell notation. A designation of color by degrees of the three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color of 10YR hue, value of 6, and chroma of 4.

Nutrient, plant. Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.

Organic matter. Plant and animal residue in the soil in various stages of decomposition.

Outwash, glacial. Stratified sand and gravel produced by glaciers and carried, sorted, and deposited by glacial melt water.

Outwash plain. A landform of mainly sandy or coarse textured material of glaciofluvial origin. An outwash plain is commonly smooth; where pitted, it is generally low in relief.

Parent material. The unconsolidated organic and mineral material in which soil forms.

Ped. An individual natural soil aggregate, such as a granule, a prism, or a block.

Pedon. The smallest volume that can be called "a soil." A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

Percolation. The downward movement of water through the soil.

Percs slowly (in tables). The slow movement of water through the soil adversely affecting the specified use.

Permafrost. Layers of soil, or even bedrock, occurring in arctic or subarctic regions, in which a temperture below freezing has existed continuously for a long time.

Permeability. The quality of the soil that enables water to move downward through the profile. Permeability is measured as the number of inches per hour that water moves downward through the saturated soil. Terms describing permeability are:

Very slow	less than 0.06 inch
Slow	0.06 to 0.2 inch
Moderately slow	0.2 to 0.6 inch
Moderate	0.6 inch to 2.0 inches
Moderately rapid	2.0 to 6.0 inches
Rapid	6.0 to 20 inches
Very rapid	more than 20 inches

Phase, soil. A subdivision of a soil series based on features that affect its use and management. For example, slope, stoniness, and thickness.

pH value. A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Piping (in tables). Formation of subsurface tunnels or pipelike cavities by water moving through the soil.

Plasticity index. The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

Plastic limit. The moisture content at which a soil changes from semisolid to plastic.

Ponding. Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

Poor filter (in tables). Because of rapid permeability the soil may not adequately filter effluent from a waste disposal system.

Poor outlets (in tables). Refers to areas where surface or subsurface drainage outlets are difficult or expensive to install.

Productivity, soil. The capability of a soil for producing a specified plant or sequence of plants under specific management.

Profile, soil. A vertical section of the soil extending through all its horizons and into the parent material.

Reaction, soil. A measure of acidity or alkalinity of a soil, expressed in pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degree of acidity or alkalinity is expressed as—

	pH
Extremely acid	below 4.5
Very strongly acid	4.5 to 5.0
Strongly acid	5.1 to 5.5
Moderately acid	5.6 to 6.0
Slightly acid	6.1 to 6.5
Neutral	6.6 to 7.3
Mildly alkaline	7.4 to 7.8
Moderately alkaline	7.9 to 8.4
Strongly alkaline	8.5 to 9.0
Very strongly alkaline	9.1 and higher

Relief. The elevations or inequalities of a land surface, considered collectively.

Rock fragments. Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

Rooting depth (in tables). Shallow root zone. The soil is shallow over a layer that greatly restricts roots.

Root zone. The part of the soil that can be penetrated by plant roots.

Runoff. The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.

Sand. As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

Sapric soil material (muck). The most highly decomposed of all organic soil material. Much has the least amount of plant fiber, the highest bulk density, and the lowest water content at saturation of all organic soil material.

Sedimentary rock. Rock made up of particles deposited from suspension in water. The chief kinds of sedimentary rock are conglomerate, formed from gravel; sandstone, formed from sand; shale, formed from clay; and limestone, formed from soft masses of calcium carbonate. There are many intermediate types. Some wind-deposited sand is consolidated into sandstone.

Seepage (in tables). The movement of water through the soil. Seepage adversely affects the specified use.

Series, soil. A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer or of the underlying material. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

Shale. Sedimentary rock formed by the hardening of a clay deposit.

Shrink-swell. The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.

Silt. As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

Site index. A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75 feet.

Slope. The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance.

Slope (in tables). Slope is great enough that special practices are required to ensure satisfactory performance of the soil for a specific use.

Slow refill (in tables). The slow filling of ponds, resulting from restricted permeability in the soil.

Small stones (in tables). Rock fragments less than 3 inches (7.6 centimeters) in diameter. Small stones adversely affect the specified use of the soil.

Soil. A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief over periods of time.

Soil separates. Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes of separates recognized in the United States are as follows:

	Millimeters
Very coarse sand	2.0 to 1.0
Coarse sand	1.0 to 0.5

Medium sand	0.5 to 0.25
Fine sand	0.25 to 0.10
Very fine sand	0.10 to 0.05
Silt	0.05 to 0.002
Clay	less than 0.002

Solum. The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the underlying material. The living roots and plant and animal activities are largely confined to the solum.

Stones. Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter.

Stony. Refers to a soil containing stones in numbers that interfere with or prevent tillage.

Stripcropping. Growing crops in a systematic arrangement of strips or bands which provide vegetative barriers to wind and water erosion.

Structure, soil. The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are either *single grained* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

Subsoil. Technically, the B horizon; roughly, the part of the solum below plow depth.

Substratum. The part of the soil below the solum.

Subsurface layer. Any surface soil horizon (A, E, AB, or EB) below the surface layer.

Surface layer. The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from about 4 to 10 inches (10 to 25 centimeters). Frequently designated as the "plow layer," or the "Ap horizon."

Taxadjuncts. Soils that cannot be classified in a series recognized in the classification system. Such soils are named for a series they strongly resemble and are designated as taxadjuncts to that series because they differ in ways too small to be of consequence in interpreting their use and behavior.

Terrace (geologic). An old alluvial plain, ordinarily flat or undulating, bordering a river, a lake, or the sea.

Texture, soil. The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay,* and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifiying "coarse," "fine," or "very fine."

Thin layer (in tables). Otherwise suitable soil material too thin for the specified use.

Tilth, soil. The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

Toe slope. The outermost inclined surface at the base of a hill; part of a foot slope.

Upland (geology). Land at a higher elevation, in general, than the alluvial plain or stream terrace; land above the lowlands along streams.

Tables

TABLE 1.--TEMPERATURE AND PRECIPITATION

[Recorded in the period 1951-80 at Bellows Falls, Vermont]

Month	Temperature						Precipitation				
	Average daily maximum	Average daily minimum	Average daily	2 years in 10 will have-- Maximum temperature higher than--	2 years in 10 will have-- Minimum temperature lower than--	Average number of growing degree days*	Average	2 years in 10 will have-- Less than--	2 years in 10 will have-- More than--	Average number of days with 0.10 inch or more	Average snowfall
	°F	°F	°F	°F	°F	Units	In	In	In		In
January----	30.2	9.2	19.7	53	-16	0	3.08	1.41	4.50	7	19.3
February---	32.9	9.9	21.4	54	-16	0	2.84	1.80	3.78	6	19.3
March------	42.0	22.2	32.1	67	-2	19	3.36	2.10	4.48	8	12.8
April------	55.4	33.2	44.3	83	18	159	3.51	2.43	4.50	8	1.9
May--------	68.3	42.8	55.6	91	28	484	3.36	1.79	4.73	8	.0
June-------	77.5	53.0	65.3	95	39	759	3.04	1.74	4.19	7	.0
July-------	82.4	57.6	70.0	96	43	930	3.06	1.73	4.23	7	.0
August-----	80.1	55.5	67.8	94	40	862	3.77	2.42	4.98	7	.0
September--	72.0	47.8	59.9	91	30	597	3.49	1.82	4.94	7	.0
October----	60.9	37.0	49.0	82	20	288	3.39	1.71	4.84	6	.0
November---	46.9	29.1	38.0	69	11	59	3.77	2.34	5.06	8	4.6
December---	33.6	15.6	24.6	57	-11	12	3.73	2.00	5.24	8	18.8
Year:											
Average---	56.9	34.4	45.6	---	---	---	---	---	---	---	---
Extreme---	---	---	---	98	-10	---	---	---	---	---	---
Total-----	---	---	---	---	---	4,169	40.40	34.23	46.30	87	76.7

*A growing degree day is a unit of heat available for plant growth. It can be calculated by adding the maximum and minimum daily temperatures, dividing the sum by 2, and subtracting the temperature below which growth is minimal for the principal crops in the area (40° F).

TABLE 2.--FREEZE DATES IN SPRING AND FALL

[Recorded in the period 1951-80 at Bellows Falls, Vermont]

Probability	Temperature		
	24° F or lower	28° F or lower	32° F or lower
Last freezing temperature in spring:			
1 year in 10 later than--	April 26	May 16	May 28
2 years in 10 later than--	April 21	May 9	May 23
5 years in 10 later than--	April 11	April 26	May 14
First freezing temperature in fall:			
1 year in 10 earlier than--	October 11	October 2	September 21
2 years in 10 earlier than--	October 16	October 7	September 26
5 years in 10 earlier than--	October 27	October 16	October 4

TABLE 3.--GROWING SEASON

[Recorded in the period 1951-80 at Bellows Falls, Vermont]

Probability	Length of growing season if daily minimum temperature is--		
	Higher than 24° F	Higher than 28° F	Higher than 32° F
	Days	Days	Days
9 years in 10	175	148	123
8 years in 10	183	157	130
5 years in 10	198	172	143
2 years in 10	213	188	156
1 year in 10	221	196	162

TABLE 4.--ACREAGE AND PROPORTIONATE EXTENT OF THE SOILS

Map symbol	Soil name	Acres	Percent
1A	Unadilla silt loam, 0 to 3 percent slopes	841	0.2
1B	Unadilla silt loam, 3 to 8 percent slopes	488	0.1
1C	Unadilla silt loam, 8 to 15 percent slopes	281	0.1
1D	Unadilla silt loam, 15 to 25 percent slopes	257	0.1
1E	Udorthents, steep	534	0.1
2A	Belgrade silt loam, 0 to 3 percent slopes	555	0.1
3B	Quonset and Warwick soils, 2 to 8 percent slopes	6,430	1.3
3C	Quonset and Warwick soils, 8 to 15 percent slopes	2,767	0.5
3D	Quonset and Warwick soils, 15 to 25 percent slopes	1,364	0.3
3E	Quonset and Warwick soils, 25 to 70 percent slopes	2,323	0.5
5B	Windsor loamy fine sand, 2 to 8 percent slopes	2,977	0.6
5C	Windsor loamy fine sand, 8 to 15 percent slopes	1,004	0.2
5D	Windsor loamy fine sand, 15 to 25 percent slopes	676	0.1
5E	Windsor loamy fine sand, 25 to 60 percent slopes	1,810	0.3
9B	Deerfield fine sandy loam, 2 to 8 percent slopes	1,000	0.2
10A	Agawam very fine sandy loam, 0 to 3 percent slopes	806	0.2
10B	Agawam very fine sandy loam, 3 to 8 percent slopes	304	0.1
11B	Berkshire and Monadnock fine sandy loams, 3 to 8 percent slopes	441	0.1
11C	Berkshire and Monadnock fine sandy loams, 8 to 15 percent slopes	1,382	0.3
11D	Berkshire and Monadnock fine sandy loams, 15 to 25 percent slopes	565	0.1
12C	Stratton-Glebe complex, 8 to 15 percent slopes, very rocky	858	0.2
12D	Stratton-Glebe complex, 15 to 25 percent slopes, very rocky	1,350	0.3
12E	Stratton-Glebe complex, 25 to 50 percent slopes, very rocky	4,420	0.9
16B	Adams loamy fine sand, 2 to 8 percent slopes	878	0.2
16C	Adams loamy fine sand, 8 to 15 percent slopes	612	0.1
16D	Adams loamy fine sand, 15 to 25 percent slopes	259	0.1
16E	Adams loamy fine sand, 25 to 50 percent slopes	480	0.1
17B	Worden loam, 3 to 8 percent slopes	3,286	0.6
17C	Worden loam, 8 to 15 percent slopes	2,076	0.4
18B	Worden loam, 3 to 8 percent slopes, very bouldery	16,770	3.3
18C	Worden loam, 8 to 15 percent slopes, very bouldery	19,280	3.8
18D	Worden loam, 15 to 25 percent slopes, very bouldery	1,346	0.3
20B	Tunbridge-Lyman fine sandy loams, 3 to 8 percent slopes, very rocky	732	0.1
20C	Tunbridge-Lyman fine sandy loams, 8 to 15 percent slopes, very rocky	12,539	2.5
20D	Tunbridge-Lyman fine sandy loams, 15 to 25 percent slopes, very rocky	19,690	3.8
20E	Tunbridge-Lyman fine sandy loams, 25 to 50 percent slopes, very rocky	19,960	3.9
21B	Marlow fine sandy loam, 3 to 8 percent slopes	2,343	0.5
21C	Marlow fine sandy loam, 8 to 15 percent slopes	5,145	1.0
21D	Marlow fine sandy loam, 15 to 25 percent slopes	1,513	0.3
22B	Marlow fine sandy loam, 3 to 8 percent slopes, very stony	2,035	0.4
22C	Marlow fine sandy loam, 8 to 15 percent slopes, very stony	9,787	1.9
22D	Marlow fine sandy loam, 15 to 25 percent slopes, very stony	6,778	1.3
22E	Marlow fine sandy loam, 25 to 50 percent slopes, very stony	3,920	0.8
23	Ondawa fine sandy loam	2,332	0.5
24	Podunk fine sandy loam	2,428	0.5
25B	Westbury fine sandy loam, 3 to 8 percent slopes	1,116	0.2
25C	Westbury fine sandy loam, 8 to 15 percent slopes	816	0.2
26B	Westbury fine sandy loam, 3 to 8 percent slopes, very stony	4,504	0.9
26C	Westbury fine sandy loam, 8 to 15 percent slopes, very stony	3,560	0.7
26D	Westbury fine sandy loam, 15 to 25 percent slopes, very stony	407	0.1
29	Walpole fine sandy loam	568	0.1
31B	Wilmington very fine sandy loam, 2 to 8 percent slopes, very stony	10,810	2.1
33	Rumney fine sandy loam	1,692	0.3
34C	Lyman-Rock outcrop complex, 8 to 15 percent slopes	1,174	0.2
34D	Lyman-Rock outcrop complex, 15 to 25 percent slopes	2,363	0.5
34E	Lyman-Rock outcrop complex, 25 to 50 percent slopes	5,776	1.1
37	Hadley silt loam	978	0.2
39	Winooski silt loam	512	0.1
40	Limerick silt loam	623	0.1
41D	Londonderry-Stratton silt loams, 8 to 25 percent slopes, very rocky	1,604	0.3
41E	Londonderry-Stratton silt loams, 25 to 70 percent slopes, very rocky	1,434	0.3
43B	Mundal fine sandy loam, 3 to 8 percent slopes	1,440	0.3
43C	Mundal fine sandy loam, 8 to 15 percent slopes	2,700	0.5
43D	Mundal fine sandy loam, 15 to 25 percent slopes	326	0.1
44B	Mundal fine sandy loam, 3 to 8 percent slopes, very stony	2,986	0.6

TABLE 4.--ACREAGE AND PROPORTIONATE EXTENT OF THE SOILS--Continued

Map symbol	Soil name	Acres	Percent
44C	Mundal fine sandy loam, 8 to 15 percent slopes, very stony	19,120	3.8
44D	Mundal fine sandy loam, 15 to 25 percent slopes, very stony	10,950	2.2
44E	Mundal fine sandy loam, 25 to 50 percent slopes, very stony	3,535	0.7
46B	Berkshire and Monadnock fine sandy loams, 3 to 8 percent slopes, very stony	451	0.1
46C	Berkshire and Monadnock fine sandy loams, 8 to 15 percent slopes, very stony	4,052	0.8
46D	Berkshire and Monadnock fine sandy loams, 15 to 25 percent slopes, very stony	5,326	1.0
46E	Berkshire and Monadnock fine sandy loams, 25 to 50 percent slopes, very stony	5,893	1.2
47	Lupton mucky peat	2,357	0.5
48B	Rawsonville-Hogback fine sandy loams, 3 to 8 percent slopes, rocky	626	0.1
48C	Rawsonville-Hogback fine sandy loams, 8 to 15 percent slopes, rocky	14,340	2.8
48D	Rawsonville-Hogback fine sandy loams, 15 to 25 percent slopes, rocky	19,270	3.8
48E	Rawsonville-Hogback fine sandy loams, 25 to 50 percent slopes, rocky	20,670	4.0
49B	Houghtonville-Rawsonville fine sandy loams, 3 to 8 percent slopes, very bouldery	1,980	0.4
49C	Houghtonville-Rawsonville fine sandy loams, 8 to 15 percent slopes, very bouldery	20,144	3.9
49D	Houghtonville-Rawsonville fine sandy loams, 15 to 25 percent slopes, very bouldery	17,887	3.5
49E	Houghtonville-Rawsonville fine sandy loams, 25 to 50 percent slopes, very bouldery	9,194	1.8
50B	Colton loamy fine sand, 2 to 8 percent slopes	3,265	0.6
50C	Colton loamy fine sand, 8 to 15 percent slopes	2,205	0.4
50D	Colton loamy fine sand, 15 to 25 percent slopes	1,258	0.2
50E	Colton loamy fine sand, 25 to 60 percent slopes	1,503	0.3
52A	Sheepscot fine sandy loam, 0 to 3 percent slopes	452	0.1
52B	Sheepscot fine sandy loam, 3 to 8 percent slopes	1,754	0.3
56B	Monadnock fine sandy loam, 3 to 8 percent slopes, very stony	257	0.1
56C	Monadnock fine sandy loam, 8 to 15 percent slopes, very stony	1,348	0.3
56D	Monadnock fine sandy loam, 15 to 25 percent slopes, very stony	1,425	0.3
56E	Monadnock fine sandy loam, 25 to 50 percent slopes, very stony	1,423	0.3
60B	Houghtonville fine sandy loam, 3 to 8 percent slopes	361	0.1
60C	Houghtonville fine sandy loam, 8 to 15 percent slopes	2,023	0.4
60D	Houghtonville fine sandy loam, 15 to 25 percent slopes	1,338	0.3
61B	Houghtonville fine sandy loam, 3 to 8 percent slopes, very stony	503	0.1
61C	Houghtonville fine sandy loam, 8 to 15 percent slopes, very stony	8,148	1.6
61D	Houghtonville fine sandy loam, 15 to 25 percent slopes, very stony	7,406	1.5
61E	Houghtonville fine sandy loam, 25 to 50 percent slopes, very stony	8,082	1.6
62	Markey muck	2,841	0.6
63C	Berkshire-Tunbridge fine sandy loams, 8 to 15 percent slopes, very stony	7,553	1.5
63D	Berkshire-Tunbridge fine sandy loams, 15 to 25 percent slopes, very stony	7,401	1.5
63E	Berkshire-Tunbridge fine sandy loams, 25 to 50 percent slopes, very stony	4,515	0.9
64	Udifluvents, loamy	506	0.1
65C	Hogback-Rawsonville fine sandy loams, 8 to 15 percent slopes, very rocky	793	0.1
65D	Hogback-Rawsonville fine sandy loams, 15 to 25 percent slopes, very rocky	2,263	0.4
65E	Hogback-Rawsonville fine sandy loams, 25 to 50 percent slopes, very rocky	7,571	1.5
66B	Houghtonville-Rawsonville fine sandy loams, 3 to 8 percent slopes, rocky	294	0.1
66C	Houghtonville-Rawsonville fine sandy loams, 8 to 15 percent slopes, rocky	973	0.2
67B	Berkshire-Tunbridge fine sandy loams, 3 to 8 percent slopes, rocky	293	0.1
67C	Berkshire-Tunbridge fine sandy loams, 8 to 15 percent slopes, rocky	1,683	0.3
68D	Taconic-Hubbardton-Rock outcrop complex, 8 to 25 percent slopes	3,527	0.7
68E	Taconic-Hubbardton-Rock outcrop complex, 25 to 70 percent slopes	3,938	0.8
69C	Macomber-Taconic complex, 8 to 15 percent slopes, very rocky	6,728	1.3
69D	Macomber-Taconic complex, 15 to 25 percent slopes, very rocky	8,337	1.6
69E	Macomber-Taconic complex, 25 to 70 percent slopes, very rocky	5,148	1.0
70C	Dummerston-Macomber complex, 8 to 15 percent slopes, very stony	3,203	0.6
70D	Dummerston-Macomber complex, 15 to 25 percent slopes, very stony	1,811	0.3
70E	Dummerston-Macomber complex, 25 to 70 percent slopes, very stony	562	0.1
71B	Dummerston silt loam, 3 to 8 percent slopes	359	0.1
71C	Dummerston silt loam, 8 to 15 percent slopes	1,375	0.3
71D	Dummerston silt loam, 15 to 25 percent slopes	566	0.1
72C	Dummerston silt loam, 8 to 15 percent slopes, very stony	2,157	0.4
72D	Dummerston silt loam, 15 to 25 percent slopes, very stony	2,477	0.4
72E	Dummerston silt loam, 25 to 70 percent slopes, very stony	1,627	0.3
73B	Fullam silt loam, 3 to 8 percent slopes	1,012	0.2
73C	Fullam silt loam, 8 to 15 percent slopes	2,076	0.4
73D	Fullam silt loam, 15 to 25 percent slopes	499	0.1
74B	Fullam silt loam, 3 to 8 percent slopes, very stony	855	0.2
74C	Fullam silt loam, 8 to 15 percent slopes, very stony	2,201	0.4
74D	Fullam silt loam, 15 to 25 percent slopes, very stony	1,541	0.3

TABLE 4.--ACREAGE AND PROPORTIONATE EXTENT OF THE SOILS--Continued

Map symbol	Soil name	Acres	Percent
74E	Fullam silt loam, 25 to 35 percent slopes, very stony	1,127	0.2
75B	Brayton silt loam, 2 to 8 percent slopes, very stony	1,698	0.3
76B	Dummerston-Macomber complex, 3 to 8 percent slopes, rocky	270	0.1
76C	Dummerston-Macomber complex, 8 to 15 percent slopes, rocky	813	0.2
	Water	5,370	1.0
	Total	507,520	100.0

TABLE 5.--PRIME FARMLAND

(Only the soils considered prime farmland are listed. Urban or built-up areas of the soils listed are not considered prime farmland.)

Map symbol	Soil name
1A	Unadilla silt loam, 0 to 3 percent slopes
2A	Belgrade silt loam, 0 to 3 percent slopes
10A	Agawam very fine sandy loam, 0 to 3 percent slopes
10B	Agawam very fine sandy loam, 3 to 8 percent slopes
11B	Berkshire and Monadnock fine sandy loams, 3 to 8 percent slopes
21B	Marlow fine sandy loam, 3 to 8 percent slopes
23	Ondawa fine sandy loam
24	Podunk fine sandy loam
37	Hadley silt loam
39	Winooski silt loam
67B	Berkshire-Tunbridge fine sandy loams, 3 to 8 percent slopes, rocky
71B	Dummerston silt loam, 3 to 8 percent slopes
73B	Fullam silt loam, 3 to 8 percent slopes
76B	Dummerston-Macomber complex, 3 to 8 percent slopes, rocky

TABLE 6.--LAND CAPABILITY CLASSES AND YIELDS PER ACRE OF CROPS AND PASTURE

(Yields are those that can be expected under a high level of management. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil)

Soil name and map symbol	Land capability	Corn silage	Alfalfa hay	Grass-legume hay	Grass hay	Grass-clover	Pasture	Potatoes, Irish
		Tons	Tons	Tons	Tons	AUM*	AUM*	Cwt
1A-------------- Unadilla	I	24	5.0	4.0	3.5	6.6	5.3	300
1B-------------- Unadilla	IIe	24	5.0	4.0	3.5	6.6	5.3	300
1C-------------- Unadilla	IIIe	22	4.5	3.5	3.5	5.8	4.6	---
1D-------------- Unadilla	IVe	19	4.0	3.0	3.0	5.0	4.0	---
1E-------------- Udorthents	---	---	---	---	---	---	---	---
2A-------------- Belgrade	IIw	24	4.5	4.0	3.5	5.8	4.6	240
3B-------------- Quonset and Warwick	IIIs	17	3.5	2.8	2.5	4.1	3.3	250
3C-------------- Quonset and Warwick	IVs	16	3.0	2.5	2.5	4.1	3.3	230
3D-------------- Quonset and Warwick	VIs	---	3.0	2.5	2.0	3.3	2.6	---
3E-------------- Quonset and Warwick	VIIs	---	---	---	---	---	---	---
5B-------------- Windsor	IIIs	16	3.5	3.0	3.0	5.0	4.0	---
5C-------------- Windsor	IVs	14	3.5	3.0	3.0	5.0	4.0	---
5D-------------- Windsor	VIs	---	3.0	2.5	---	4.1	3.3	---
5E-------------- Windsor	VIIs	---	---	---	---	---	---	---
9B-------------- Deerfield	IIIw	18	3.5	3.0	3.0	5.0	4.0	240
10A------------- Agawam	I	24	5	4.5	4.0	7.5	6.0	300
10B------------- Agawam	IIe	24	5	4.5	4.0	7.5	6.0	300
11B------------- Berkshire and Monadnock	IIe	20	4.3	4.0	3.5	6.6	5.4	300

See footnote at end of table.

TABLE 6.--LAND CAPABILITY CLASSES AND YIELDS PER ACRE OF CROPS AND PASTURE--Continued

Soil name and map symbol	Land capability	Corn silage	Alfalfa hay	Grass-legume hay	Grass hay	Grass-clover	Pasture	Potatoes, Irish
		Tons	Tons	Tons	Tons	AUM*	AUM*	Cwt
11C------------- Berkshire and Monadnock	IIIe	18	4.0	3.6	3.0	6.0	4.8	270
11D------------- Berkshire and Monadnock	IVe	15	3.6	3.0	2.5	4.1	3.3	---
12C, 12D, 12E--- Stratton-Glebe	VIIs	---	---	---	---	---	---	---
16B------------- Adams	IIIs	12	3.0	2.5	2.5	4.1	3.3	---
16C------------- Adams	IVs	12	3.0	2.5	2.5	4.1	3.3	---
16D------------- Adams	VIs	---	---	---	---	---	---	---
16E------------- Adams	VIIs	---	---	---	---	---	---	---
17B------------- Worden	IIe	---	---	3.0	3.0	5.0	3.6	---
17C------------- Worden	IIIe	---	---	3.0	3.0	5.0	3.6	---
18B------------- Worden	VIs	---	---	---	---	---	2.6	---
18C------------- Worden	VIs	---	---	---	---	---	2.6	---
18D------------- Worden	VIs	---	---	---	---	---	1.8	---
20B, 20C-------- Tunbridge-Lyman	VIs	---	---	---	---	---	2.5	---
20D------------- Tunbridge-Lyman	VIs	---	---	---	---	---	2.2	---
20E------------- Tunbridge-Lyman	VIIs	---	---	---	---	---	---	---
21B------------- Marlow	IIe	22	4.5	4.0	4.0	6.6	5.3	330
21C------------- Marlow	IIIe	20	4.5	4.0	4.0	6.6	5.3	300
21D------------- Marlow	IVe	18	4.0	3.5	3.5	5.8	4.6	---
22B, 22C-------- Marlow	VIs	---	---	---	---	---	3.8	---

See footnote at end of table.

TABLE 6.--LAND CAPABILITY CLASSES AND YIELDS PER ACRE OF CROPS AND PASTURE--Continued

Soil name and map symbol	Land capability	Corn silage	Alfalfa hay	Grass-legume hay	Grass hay	Grass-clover	Pasture	Potatoes, Irish
		Tons	Tons	Tons	Tons	AUM*	AUM*	Cwt
22D, 22E-------- Marlow	VIs	---	---	---	---	---	---	---
23-------------- Ondawa	I	26	4.5	4.0	3.5	6.6	5.3	330
24-------------- Podunk	IIw	24	4.0	4.5	4.0	7.5	6.0	300
25B------------- Westbury	IIIw	16	---	3.0	3.0	5.0	4.0	---
25C------------- Westbury	IVe	14	---	3.0	3.0	5.0	4.0	---
26B, 26C-------- Westbury	VIs	---	---	---	---	---	3.5	---
26D------------- Westbury	VIs	---	---	---	---	---	---	---
29-------------- Walpole	IIIw	18	---	3.0	3.0	5.0	4.0	---
31B------------- Wilmington	VIs	---	---	---	---	---	3.4	---
33-------------- Rumney	IIIw	20	---	3.5	4.0	5.8	4.6	---
34C**----------- Lyman-Rock outcrop	VIs	---	---	---	---	---	1.5	---
34D**----------- Lyman-Rock outcrop	VIs	---	---	---	---	---	1.5	---
34E**----------- Lyman-Rock outcrop	VIIs	---	---	---	---	---	---	---
37-------------- Hadley	I	28	5.0	4.5	4.0	7.5	6.0	340
39-------------- Winooski	IIw	26	4.5	4.0	4.0	6.6	5.3	330
40-------------- Limerick	IIIw	20	---	3.5	4.0	5.8	4.6	---
41D, 41E-------- Londonderry-Stratton	VIIs	---	---	---	---	---	---	---
43B------------- Mundal	IIe	---	---	3.5	3.5	5.5	4.2	---

See footnote at end of table.

TABLE 6.--LAND CAPABILITY CLASSES AND YIELDS PER ACRE OF CROPS AND PASTURE--Continued

Soil name and map symbol	Land capability	Corn silage	Alfalfa hay	Grass-legume hay	Grass hay	Grass-clover	Pasture	Potatoes, Irish
		Tons	Tons	Tons	Tons	AUM*	AUM*	Cwt
43C------------- Mundal	IIIe	---	---	3.5	3.5	5.5	4.2	---
43D------------- Mundal	IVe	---	---	3.0	3.0	5.0	3.6	---
44B, 44C-------- Mundal	VIs	---	---	---	---	---	3.6	---
44D------------- Mundal	VIs	---	---	---	---	---	3.0	---
44E------------- Mundal	VIIs	---	---	---	---	---	---	---
46B, 46C, 46D--- Berkshire and Monadnock	VIs	---	---	---	---	---	3.5	---
46E------------- Berkshire and Monadnock	VIIs	---	---	---	---	---	2.5	---
47-------------- Lupton	Vw	---	---	---	---	---	---	---
48B------------- Rawsonville-Hogback	VIs	---	---	---	---	---	2.8	---
48C------------- Rawsonville-Hogback	VIs	---	---	---	---	---	2.4	---
48D------------- Rawsonville-Hogback	VIs	---	---	---	---	---	2.1	---
48E------------- Rawsonville-Hogback	VIs	---	---	---	---	---	---	---
49B------------- Houghtonville-Rawsonville	VIs	---	---	---	---	---	3.1	---
49C------------- Houghtonville-Rawsonville	VIs	---	---	---	---	---	2.7	---
49D------------- Houghtonville-Rawsonville	VIs	---	---	---	---	---	2.4	---
49E------------- Houghtonville-Rawsonville	VIIs	---	---	---	---	---	---	---

See footnote at end of table.

TABLE 6.--LAND CAPABILITY CLASSES AND YIELDS PER ACRE OF CROPS AND PASTURE--Continued

Soil name and map symbol	Land capability	Corn silage	Alfalfa hay	Grass-legume hay	Grass hay	Grass-clover	Pasture	Potatoes, Irish
		Tons	Tons	Tons	Tons	AUM*	AUM*	Cwt
50B------------- Colton	IIIs	12	2.5	2.0	2.0	3.3	2.6	---
50C------------- Colton	IVs	12	2.5	2.0	2.0	3.3	2.6	---
50D------------- Colton	VIs	---	---	---	---	---	---	---
50E------------- Colton	VIIs	---	---	---	---	---	---	---
52A, 52B-------- Sheepscot	IIw	19	4.4	4.0	3.4	6.7	5.3	250
56B, 56C, 56D--- Monadnock	VIs	---	---	---	---	---	3.0	---
56E------------- Monadnock	VIIs	---	---	---	---	---	---	---
60B------------- Houghtonville	IIe	---	---	4.0	4.0	6.6	4.8	---
60C------------- Houghtonville	IIIe	---	---	3.5	3.5	5.8	4.2	---
60D------------- Houghtonville	IVe	---	---	3.0	3.0	5.0	3.6	---
61B------------- Houghtonville	VIs	---	---	---	---	---	4.0	---
61C------------- Houghtonville	VIs	---	---	---	---	---	3.6	---
61D------------- Houghtonville	VIIs	---	---	---	---	---	3.0	---
61E------------- Houghtonville	VIIs	---	---	---	---	---	---	---
62-------------- Markey	VIw	---	---	---	---	---	---	---
63C, 63D-------- Berkshire-Tunbridge	VIs	---	---	---	---	---	4.0	---
63E------------- Berkshire-Tunbridge	VIIs	---	---	---	---	---	---	---
64-------------- Udifluvents	---	---	---	---	---	---	---	---

See footnote at end of table.

TABLE 6.--LAND CAPABILITY CLASSES AND YIELDS PER ACRE OF CROPS AND PASTURE--Continued

Soil name and map symbol	Land capability	Corn silage	Alfalfa hay	Grass-legume hay	Grass hay	Grass-clover	Pasture	Potatoes, Irish
		Tons	Tons	Tons	Tons	AUM*	AUM*	Cwt
65C------------- Hogback-Rawsonville	VIs	---	---	---	---	---	2.2	---
65D------------- Hogback-Rawsonville	VIs	---	---	---	---	---	2.0	---
65E------------- Hogback-Rawsonville	VIIs	---	---	---	---	---	---	---
66B------------- Houghtonville-Rawsonville	IIe	---	---	3.5	3.5	5.8	4.8	---
66C------------- Houghtonville-Rawsonville	IIIe	---	---	3.2	3.2	5.3	4.2	---
67B------------- Berkshire-Tunbridge	IIs	20	4.0	4.0	3.5	5.8	4.8	270
67C------------- Berkshire-Tunbridge	IIIe	18	4.0	3.5	3.5	5.8	4.8	240
68D**----------- Taconic-Hubbardton-Rock outcrop	VIIs	---	---	---	---	---	2.0	---
68E**----------- Taconic-Hubbardton-Rock outcrop	VIIs	---	---	---	---	---	---	---
69C------------- Macomber-Taconic	VIs	---	---	---	---	---	2.8	---
69D------------- Macomber-Taconic	VIs	---	---	---	---	---	2.4	---
69E------------- Macomber-Taconic	VIIs	---	---	---	---	---	---	---
70C------------- Dummerston-Macomber	VIs	---	---	---	---	---	3.4	---
70D------------- Dummerston-Macomber	VIs	---	---	---	---	---	2.7	---
70E------------- Dummerston-Macomber	VIIs	---	---	---	---	---	---	---

See footnote at end of table.

TABLE 6.--LAND CAPABILITY CLASSES AND YIELDS PER ACRE OF CROPS AND PASTURE--Continued

Soil name and map symbol	Land capability	Corn silage	Alfalfa hay	Grass-legume hay	Grass hay	Grass-clover	Pasture	Potatoes, Irish
		Tons	Tons	Tons	Tons	AUM*	AUM*	Cwt
71B------------- Dummerston	IIe	22	4.5	3.5	3.5	6.6	5.5	300
71C------------- Dummerston	IIIe	20	4.0	3.5	3.5	6.6	5.5	270
71D------------- Dummerston	IVe	18	3.5	3.0	3.0	5.7	4.5	---
72C------------- Dummerston	VIs	---	---	---	---	---	3.4	---
72D------------- Dummerston	VIs	---	---	---	---	---	2.7	---
72E------------- Dummerston	VIIs	---	---	---	---	---	---	---
73B------------- Fullam	IIw	20	4.0	3.5	3.5	6.5	5.2	---
73C------------- Fullam	IIIe	18	4.0	3.5	3.5	6.5	5.2	---
73D------------- Fullam	IVe	16	3.5	3.0	3.0	5.5	4.2	---
74B------------- Fullam	VIs	---	---	---	---	---	3.4	---
74C------------- Fullam	VIs	---	---	---	---	---	3.4	---
74D------------- Fullam	VIs	---	---	---	---	---	2.7	---
74E------------- Fullam	VIIs	---	---	---	---	---	---	---
75B------------- Brayton	VIs	---	---	---	---	---	2.7	---
76B------------- Dummerston-Macomber	IIs	20	4.0	3.5	3.5	6.6	5.5	270
76C------------- Dummerston-Macomber	IIIe	18	4.0	3.5	3.5	6.6	5.5	240

* Animal-unit-month: The amount of forage or feed required to feed one animal unit (one cow, one horse, one mule, five sheep, or five goats) for 30 days.

** See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 7.--CAPABILITY CLASSES AND SUBCLASSES

(Miscellaneous areas are excluded. Absence of an entry indicates no acreage)

Class	Total acreage	Major management concerns (Subclass)			
		Erosion (e)	Wetness (w)	Soil problem (s)	Climate (c)
		Acres	Acres	Acres	Acres
I	4,957	---	---	---	---
II	19,807	13,094	6,713	---	---
III	37,245	21,911	4,999	10,335	---
IV	11,766	6,562	---	5,204	---
V	2,357	---	2,357	---	---
VI	6,890	---	2,841	4,049	---
VII	418,088	1,161	---	416,927	---
VIII	---	---	---	---	---

TABLE 8.--WOODLAND MANAGEMENT AND PRODUCTIVITY

(Only the soils suitable for production of commercial trees are listed. Absence of an entry indicates that information was not available)

Soil name and map symbol	Ordination symbol	Management concerns: Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Potential productivity: Common trees	Site index	Productivity class*	Trees to plant
1A, 1B---------- Unadilla	3A	Slight	Slight	Slight	Slight	Sugar maple--------- Eastern white pine-- Northern red oak---- Black cherry-------- White ash-----------	70 85 80 80 95	3 10 4 4 4	Eastern white pine, Norway spruce, black cherry, European larch, red pine, white spruce.
1C-------------- Unadilla	3R	Moderate	Slight	Slight	Slight	Sugar maple--------- Eastern white pine-- Northern red oak---- Black cherry-------- White ash-----------	70 85 80 80 95	3 10 4 4 4	Eastern white pine, Norway spruce, black cherry, European larch, red pine, white spruce.
1D-------------- Unadilla	3R	Severe	Moderate	Slight	Slight	Sugar maple--------- Eastern white pine-- Northern red oak---- Black cherry-------- White ash-----------	70 85 80 80 95	3 10 4 4 4	Eastern white pine, Norway spruce, black cherry, European larch, red pine, white spruce.
2A-------------- Belgrade	10A	Slight	Slight	Slight	Slight	Eastern white pine-- White spruce-------- Northern red oak----	75 65 62	10 10 3	Eastern white pine, red pine, European larch, white spruce.
3B**, 3C**:									
Quonset--------	7S	Slight	Slight	Severe	Slight	Eastern white pine-- Northern red oak---- Red pine------------ Sugar maple---------	61 47 60 52	7 2 6 2	Eastern white pine, red pine.
Warwick--------	9S	Slight	Slight	Moderate	Slight	Eastern white pine-- Northern red oak---- Sugar maple--------- Red pine------------	70 55 59 70	9 3 3 8	Eastern white pine, red pine.
3D**:									
Quonset--------	7S	Moderate	Moderate	Severe	Slight	Eastern white pine-- Northern red oak---- Red pine------------ Sugar maple---------	61 47 60 52	7 2 6 2	Eastern white pine, red pine.
Warwick--------	9S	Moderate	Moderate	Moderate	Slight	Eastern white pine-- Northern red oak---- Sugar maple--------- Red pine------------	70 55 59 70	9 3 3 8	Eastern white pine, red pine.

See footnote at end of table.

TABLE 8.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordination symbol	Management concerns: Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Potential productivity: Common trees	Site index	Productivity class*	Trees to plant
3E**:									
Quonset	7R	Severe	Severe	Severe	Slight	Eastern white pine	61	7	Eastern white pine, red pine.
						Northern red oak	47	2	
						Red pine	60	6	
						Sugar maple	52	2	
Warwick	9R	Severe	Severe	Moderate	Slight	Eastern white pine	70	9	Eastern white pine, red pine.
						Northern red oak	55	3	
						Sugar maple	59	3	
						Red pine	70	8	
5B, 5C: Windsor	7S	Slight	Slight	Severe	Slight	Eastern white pine	57	7	Eastern white pine, red pine.
						Northern red oak	52	2	
						Red pine	61	7	
						Sugar maple	55	2	
5D: Windsor	7S	Moderate	Moderate	Severe	Slight	Eastern white pine	57	7	Eastern white pine, red pine.
						Northern red oak	52	2	
						Red pine	61	7	
						Sugar maple	55	2	
5E: Windsor	7R	Severe	Severe	Severe	Slight	Eastern white pine	57	7	Eastern white pine, red pine.
						Northern red oak	52	2	
						Red pine	61	7	
						Sugar maple	55	2	
9B: Deerfield	8S	Slight	Slight	Moderate	Slight	Eastern white pine	65	8	Eastern white pine, red pine, European larch.
						Northern red oak	55	3	
10A, 10B: Agawam	9A	Slight	Slight	Slight	Slight	Eastern white pine	70	9	Eastern white pine, red pine, white spruce, Norway spruce.
						Red pine	70	8	
						Northern red oak	65	3	
						Sugar maple	---	--	
11B**, 11C**:									
Berkshire	9A	Moderate	Slight	Slight	Slight	Eastern white pine	72	9	Eastern white pine, red pine, white spruce, balsam fir.
						Sugar maple	52	2	
						Red spruce	50	8	
						White ash	62	3	
						Yellow birch	55	2	
						Paper birch	60	4	
						Balsam fir	60	8	
						White spruce	55	9	
						Red pine	65	8	
Monadnock	8A	Moderate	Slight	Slight	Slight	Eastern white pine	63	8	Eastern white pine, red pine, white spruce.
						Northern red oak	55	3	
						Red pine	60	6	
						White spruce	55	9	

See footnote at end of table.

TABLE 8.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordination symbol	Management concerns				Potential productivity			Trees to plant
		Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Common trees	Site index	Productivity class*	
11D**:									
Berkshire------	9R	Moderate	Moderate	Slight	Slight	Eastern white pine--	72	9	Eastern white pine, red pine, white spruce, balsam fir.
						Sugar maple---------	52	2	
						Red spruce----------	50	8	
						White ash-----------	62	3	
						Yellow birch--------	55	2	
						Paper birch---------	60	4	
						Balsam fir----------	60	8	
						White spruce--------	55	9	
						Red pine------------	65	8	
Monadnock------	8R	Moderate	Moderate	Slight	Slight	Eastern white pine--	63	8	Eastern white pine, red pine, white spruce.
						Northern red oak----	55	3	
						Red pine------------	60	6	
						White spruce--------	55	9	
12C**:									
Stratton-------	5D	Moderate	Severe	Moderate	Severe	Eastern hemlock-----	---	--	Balsam fir, white spruce.
						Balsam fir----------	---	--	
						Red spruce----------	---	--	
						American beech------	---	--	
						Paper birch---------	---	--	
						Yellow birch--------	---	--	
						Mountainash---------	---	--	
						Sugar maple---------	---	--	
						Red maple-----------	---	--	
						Mountain maple------	---	--	
Glebe----------	4A	Moderate	Severe	Slight	Moderate	Eastern hemlock-----	---	--	Balsam fir, white spruce.
						Balsam fir----------	---	--	
						Red spruce----------	---	--	
						American beech------	---	--	
						Paper birch---------	---	--	
						Yellow birch--------	---	--	
						Mountainash---------	---	--	
						Sugar maple---------	---	--	
						Red maple-----------	---	--	
						Mountain maple------	---	--	
12D**:									
Stratton-------	5D	Severe	Severe	Moderate	Severe	Eastern hemlock-----	---	--	Balsam fir, white spruce.
						Balsam fir----------	---	--	
						Red spruce----------	---	--	
						American beech------	---	--	
						Paper birch---------	---	--	
						Yellow birch--------	---	--	
						Mountainash---------	---	--	
						Sugar maple---------	---	--	
						Red maple-----------	---	--	
						Mountain maple------	---	--	
Glebe----------	4R	Severe	Severe	Moderate	Moderate	Eastern hemlock-----	---	--	Balsam fir, white spruce.
						Balsam fir----------	---	--	
						Red spruce----------	---	--	
						American beech------	---	--	
						Paper birch---------	---	--	
						Yellow birch--------	---	--	
						Mountainash---------	---	--	
						Sugar maple---------	---	--	
						Red maple-----------	---	--	
						Mountain maple------	---	--	

See footnote at end of table.

TABLE 8.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordination symbol	Management concerns: Erosion hazard	Management concerns: Equipment limitation	Management concerns: Seedling mortality	Management concerns: Windthrow hazard	Potential productivity: Common trees	Potential productivity: Site index	Potential productivity: Productivity class*	Trees to plant
12E**:									
Stratton	5D	Severe	Severe	Moderate	Severe	Eastern hemlock	---	--	Balsam fir, white spruce.
						Balsam fir	---	--	
						Red spruce	---	--	
						American beech	---	--	
						Paper birch	---	--	
						Yellow birch	---	--	
						Mountainash	---	--	
						Sugar maple	---	--	
						Red maple	---	--	
						Mountain maple	---	--	
Glebe	4R	Severe	Severe	Moderate	Moderate	Eastern hemlock	---	--	Balsam fir, white spruce.
						Balsam fir	---	--	
						Red spruce	---	--	
						American beech	---	--	
						Paper birch	---	--	
						Yellow birch	---	--	
						Mountainash	---	--	
						Sugar maple	---	--	
						Red maple	---	--	
						Mountain maple	---	--	
16B, 16C Adams	6S	Slight	Slight	Severe	Slight	Eastern white pine	55	6	Eastern white pine, red pine, European larch.
						Red pine	55	5	
						Red spruce	35	5	
						Sugar maple	47	2	
16D Adams	6S	Moderate	Moderate	Severe	Slight	Eastern white pine	55	6	Eastern white pine, red pine, European larch.
						Red pine	55	5	
						Red spruce	35	5	
						Sugar maple	47	2	
16E Adams	6R	Severe	Severe	Severe	Slight	Eastern white pine	55	6	Eastern white pine, red pine, European larch.
						Red pine	55	5	
						Red spruce	35	5	
						Sugar maple	47	2	
17B Worden	4W	Slight	Severe	Slight	Moderate	Paper birch	75	4	White spruce, balsam fir, red spruce, Norway spruce.
						Yellow birch	55	2	
						Sugar maple	55	2	
						Red maple	---	--	
						American beech	---	--	
						White ash	75	3	
						Black cherry	60	3	
						Eastern hemlock	---	--	
						Red spruce	50	8	
						White spruce	55	9	
						Balsam fir	55	8	
						Eastern white pine	67	8	

See footnote at end of table.

TABLE 8.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordination symbol	Management concerns				Potential productivity			Trees to plant
		Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Common trees	Site index	Productivity class*	
17C------------- Worden	4W	Moderate	Severe	Slight	Moderate	Paper birch---------	75	4	White spruce, balsam fir, red spruce, Norway spruce.
						Yellow birch--------	55	2	
						Sugar maple---------	55	2	
						Red maple-----------	---	--	
						American beech------	---	--	
						White ash-----------	75	3	
						Black cherry--------	60	3	
						Eastern hemlock-----	---	--	
						Red spruce----------	50	8	
						White spruce--------	55	9	
						Balsam fir----------	55	8	
						Eastern white pine--	67	8	
18B------------- Worden	4W	Slight	Severe	Slight	Moderate	Paper birch---------	---	--	White spruce, balsam fir, red spruce, Norway spruce.
						Yellow birch--------	---	--	
						Sugar maple---------	---	--	
						Red maple-----------	---	--	
						American beech------	---	--	
						White ash-----------	---	--	
						Black cherry--------	---	--	
						Eastern hemlock-----	---	--	
						Red spruce----------	---	--	
						White spruce--------	---	--	
						Balsam fir----------	---	--	
						Eastern white pine--	---	--	
18C------------- Worden	4W	Moderate	Severe	Slight	Moderate	Paper birch---------	---	--	White spruce, balsam fir, red spruce, Norway spruce.
						Yellow birch--------	---	--	
						Sugar maple---------	---	--	
						Red maple-----------	---	--	
						American beech------	---	--	
						White ash-----------	---	--	
						Black cherry--------	---	--	
						Eastern hemlock-----	---	--	
						Red spruce----------	---	--	
						White spruce--------	---	--	
						Balsam fir----------	---	--	
						Eastern white pine--	---	--	
18D------------- Worden	4W	Moderate	Severe	Slight	Moderate	Paper birch---------	---	--	White spruce, balsam fir, red spruce, Norway spruce.
						Yellow birch--------	---	--	
						Sugar maple---------	---	--	
						Red maple-----------	---	--	
						American beech------	---	--	
						White ash-----------	---	--	
						Black cherry--------	---	--	
						Eastern hemlock-----	---	--	
						Red spruce----------	---	--	
						White spruce--------	---	--	
						Balsam fir----------	---	--	
						Eastern white pine--	---	--	

See footnote at end of table.

TABLE 8.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordination symbol	Management concerns: Erosion hazard	Management concerns: Equipment limitation	Management concerns: Seedling mortality	Management concerns: Windthrow hazard	Potential productivity: Common trees	Potential productivity: Site index	Potential productivity: Productivity class*	Trees to plant
20B**, 20C**:									
Tunbridge------	3A	Slight	Slight	Slight	Moderate	Northern red oak----	---	--	Eastern white pine, white spruce, red spruce, Norway spruce, Scotch pine, balsam fir, tamarack.
						Eastern white pine--	---	--	
						Red spruce----------	50	8	
						Sugar maple---------	60	3	
						Yellow birch--------	55	2	
						Paper birch---------	---	--	
						White spruce--------	55	9	
						Balsam fir----------	---	--	
						White ash-----------	65	3	
Lyman----------	2D	Slight	Slight	Severe	Moderate	Sugar maple---------	50	2	Eastern white pine, red pine, white spruce, balsam fir.
						White spruce--------	55	9	
						Balsam fir----------	60	8	
						Red spruce----------	40	6	
20D**:									
Tunbridge------	3R	Moderate	Moderate	Moderate	Moderate	Northern red oak----	---	--	Eastern white pine, white spruce, red spruce, Norway spruce, Scotch pine, balsam fir, tamarack.
						Eastern white pine--	---	--	
						Red spruce----------	50	8	
						Sugar maple---------	60	3	
						Yellow birch--------	55	2	
						Paper birch---------	---	--	
						White spruce--------	55	9	
						Balsam fir----------	---	--	
						White ash-----------	65	3	
Lyman----------	2D	Moderate	Moderate	Severe	Moderate	Sugar maple---------	50	2	Eastern white pine, red pine, white spruce, balsam fir.
						White spruce--------	55	9	
						Balsam fir----------	60	8	
						Red spruce----------	40	6	
20E**:									
Tunbridge------	3R	Severe	Severe	Moderate	Moderate	Northern red oak----	---	--	Eastern white pine, white spruce, red spruce, Norway spruce, Scotch pine, balsam fir, tamarack.
						Eastern white pine--	---	--	
						Red spruce----------	50	8	
						Sugar maple---------	60	3	
						Yellow birch--------	55	2	
						Paper birch---------	---	--	
						White spruce--------	55	9	
						Balsam fir----------	---	--	
						White ash-----------	65	3	
Lyman----------	2R	Severe	Severe	Severe	Moderate	Sugar maple---------	50	2	Eastern white pine, red pine, white spruce, balsam fir.
						White spruce--------	55	9	
						Balsam fir----------	60	8	
						Red spruce----------	40	6	

See footnote at end of table.

TABLE 8.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordination symbol	Management concerns: Erosion hazard	Management concerns: Equipment limitation	Management concerns: Seedling mortality	Management concerns: Windthrow hazard	Potential productivity: Common trees	Potential productivity: Site index	Potential productivity: Productivity class*	Trees to plant
21B, 21C-------- Marlow	8A	Slight	Slight	Slight	Moderate	Eastern white pine--	66	8	Eastern white pine, white spruce, balsam fir.
						Balsam fir----------	58	8	
						Red spruce----------	48	7	
						Sugar maple---------	60	3	
						Red pine------------	65	8	
						Yellow birch--------	62	3	
						Paper birch---------	60	4	
						White spruce--------	60	10	
						White ash-----------	67	3	
						American beech------	62	3	
						Northern red oak----	67	3	
						American basswood---	56	2	
21D------------- Marlow	8R	Moderate	Moderate	Slight	Moderate	Eastern white pine--	66	8	Eastern white pine, white spruce, balsam fir.
						Balsam fir----------	58	8	
						Red spruce----------	48	7	
						Sugar maple---------	60	3	
						Red pine------------	65	8	
						Yellow birch--------	62	3	
						Paper birch---------	60	4	
						White spruce--------	60	10	
						White ash-----------	67	3	
						American beech------	62	3	
						Northern red oak----	67	3	
						American basswood---	56	2	
22B, 22C-------- Marlow	8A	Slight	Slight	Slight	Moderate	Eastern white pine--	66	8	Eastern white pine, white spruce, balsam fir.
						Balsam fir----------	58	8	
						Red spruce----------	48	7	
						Sugar maple---------	60	3	
22D------------- Marlow	8R	Moderate	Moderate	Slight	Moderate	Eastern white pine--	66	8	Eastern white pine, white spruce, balsam fir.
						Balsam fir----------	58	8	
						Red spruce----------	48	7	
						Sugar maple---------	60	3	
22E------------- Marlow	8R	Severe	Severe	Slight	Moderate	Eastern white pine--	66	8	Eastern white pine, white spruce, balsam fir.
						Balsam fir----------	58	8	
						Red spruce----------	48	7	
						Sugar maple---------	60	3	
23-------------- Ondawa	7A	Slight	Slight	Slight	Slight	Eastern white pine--	57	7	Eastern white pine, white spruce, red pine.
						Northern red oak----	60	3	
						Red pine------------	65	8	
						Red spruce----------	45	7	
						Sugar maple---------	55	2	
24-------------- Podunk	10A	Slight	Slight	Slight	Slight	Eastern white pine--	75	10	Eastern white pine, red pine, white spruce.
						Red pine------------	75	8	
						Red spruce----------	45	7	
25B, 25C, 26B, 26C------------ Westbury	3W	Slight	Moderate	Moderate	Moderate	Northern red oak----	60	3	Eastern white pine, white spruce, Norway spruce.
						Sugar maple---------	60	3	
						White spruce--------	56	9	
						Eastern white pine--	67	8	
						Red maple-----------	65	3	
						Balsam fir----------	56	8	
						Eastern hemlock-----	---	--	
						Northern white-cedar	---	--	

See footnote at end of table.

TABLE 8.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordination symbol	Management concerns				Potential productivity			Trees to plant
		Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Common trees	Site index	Productivity class*	
26D------------ Westbury	4W	Moderate	Moderate	Moderate	Moderate	Northern red oak----	60	3	Eastern white pine, white spruce, Norway spruce.
						Sugar maple---------	60	3	
						White spruce--------	56	9	
						Eastern white pine--	67	8	
						Red maple-----------	65	3	
						Balsam fir----------	56	8	
						Eastern hemlock-----	---	--	
						Northern white-cedar	---	--	
29-------------- Walpole	8W	Slight	Severe	Severe	Severe	Eastern white pine--	68	8	Eastern white pine, white spruce, northern white-cedar, Norway spruce.
						Red maple-----------	75	3	
						White ash-----------	61	3	
						Eastern hemlock-----	54	--	
31B------------- Wilmington	6W	Slight	Severe	Moderate	Slight	Red spruce----------	40	6	Eastern white pine, white spruce, northern white-cedar, Norway spruce, white spruce, balsam fir.
						Balsam fir----------	45	6	
						Eastern hemlock-----	---	--	
						Red maple-----------	---	--	
						Yellow birch--------	---	--	
						Quaking aspen-------	---	--	
						Black cherry--------	---	--	
						Sugar maple---------	---	--	
						White spruce--------	45	7	
33-------------- Rumney	7W	Slight	Severe	Moderate	Severe	Eastern white pine--	57	7	Eastern white pine, white spruce, northern white-cedar.
						Red maple-----------	65	3	
						Red spruce----------	45	7	
34C**:									
Lyman----------	2D	Slight	Slight	Severe	Moderate	Sugar maple---------	50	2	Eastern white pine, red pine, white spruce, balsam fir.
						White spruce--------	55	9	
						Balsam fir----------	60	8	
						Red spruce----------	40	6	
Rock outcrop.									
34D**:									
Lyman----------	2D	Moderate	Moderate	Severe	Moderate	Sugar maple---------	50	2	Eastern white pine, red pine, white spruce, balsam fir.
						White spruce--------	55	9	
						Balsam fir----------	60	8	
						Red spruce----------	40	6	
Rock outcrop.									
34E**:									
Lyman----------	2R	Severe	Severe	Severe	Moderate	Sugar maple---------	50	2	Eastern white pine, red pine, white spruce, balsam fir.
						White spruce--------	55	9	
						Balsam fir----------	60	8	
						Red spruce----------	40	6	
Rock outcrop.									
37-------------- Hadley	9A	Slight	Slight	Slight	Slight	Eastern white pine--	70	9	Eastern white pine, red pine, black walnut, European larch.
						Sugar maple---------	63	3	
						Red pine------------	70	8	

TABLE 8.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordi-nation symbol	Management concerns				Potential productivity			Trees to plant
		Erosion hazard	Equip-ment limita-tion	Seedling mortal-ity	Wind-throw hazard	Common trees	Site index	Produc-tivity class*	
39-------------- Winooski	4A	Slight	Slight	Slight	Slight	Northern red oak---- Eastern white pine-- White spruce-------- Sugar maple---------	70 75 70 65	4 10 10 3	Eastern white pine, red pine, European larch.
40-------------- Limerick	8W	Slight	Severe	Severe	Severe	Eastern white pine-- Red maple-----------	65 ---	8 --	Eastern white pine, white spruce, northern white-cedar.
41D**:									
Londonderry----	5D	Severe	Moderate	Severe	Severe	Balsam fir---------- Red spruce---------- White spruce--------	--- --- ---	-- -- --	
Stratton-------	5D	Severe	Severe	Moderate	Severe	Eastern hemlock----- Balsam fir---------- Red spruce---------- Paper birch--------- American beech------ Yellow birch-------- Mountainash--------- Sugar maple--------- Red maple----------- Mountain maple------	--- --- --- --- --- --- --- --- --- ---	-- -- -- -- -- -- -- -- -- --	Balsam fir, white spruce.
41E**:									
Londonderry----	5R	Severe	Severe	Severe	Severe	Balsam fir---------- Red spruce---------- White spruce--------	--- --- ---	-- -- --	
Stratton-------	5R	Severe	Severe	Moderate	Severe	Eastern hemlock----- Balsam fir---------- Red spruce---------- Paper birch--------- American beech------ Yellow birch-------- Mountainash--------- Sugar maple--------- Red maple----------- Mountain maple------	--- --- --- --- --- --- --- --- --- ---	-- -- -- -- -- -- -- -- -- --	Balsam fir, white spruce.
43B------------- Mundal	3A	Slight	Severe	Slight	Slight	American beech------ Yellow birch-------- Paper birch--------- Red maple----------- Sugar maple--------- White ash----------- Balsam fir---------- Red spruce---------- White spruce-------- Eastern white pine--	--- --- --- --- 65 75 55 50 55 67	-- -- -- -- 3 3 8 8 9 8	White spruce, Norway spruce, red spruce, balsam fir, Scotch pine, tamarack, eastern white pine.

See footnote at end of table.

TABLE 8.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordination symbol	Management concerns: Erosion hazard	Management concerns: Equipment limitation	Management concerns: Seedling mortality	Management concerns: Windthrow hazard	Potential productivity: Common trees	Potential productivity: Site index	Potential productivity: Productivity class*	Trees to plant
43C------------- Mundal	3A	Moderate	Severe	Slight	Slight	American beech------	---	--	White spruce,
						Yellow birch--------	---	--	Norway spruce,
						Paper birch---------	---	--	red spruce,
						Red maple-----------	---	--	balsam fir,
						Sugar maple---------	65	3	Scotch pine,
						White ash-----------	75	3	tamarack,
						Balsam fir----------	55	8	eastern white
						Red spruce----------	50	8	pine.
						White spruce--------	55	9	
						Eastern white pine--	67	8	
43D------------- Mundal	3R	Severe	Severe	Slight	Slight	American beech------	---	--	White spruce,
						Yellow birch--------	---	--	Norway spruce,
						Paper birch---------	---	--	red spruce,
						Red maple-----------	---	--	balsam fir,
						Sugar maple---------	65	3	Scotch pine,
						White ash-----------	75	3	tamarack,
						Balsam fir----------	55	8	eastern white
						Red spruce----------	50	8	pine.
						White spruce--------	55	9	
						Eastern white pine--	67	8	
44B------------- Mundal	3A	Slight	Severe	Slight	Slight	American beech------	---	--	White spruce,
						Yellow birch--------	---	--	Norway spruce,
						Paper birch---------	---	--	red spruce,
						Red maple-----------	---	--	balsam fir,
						Sugar maple---------	65	3	Scotch pine,
						White ash-----------	75	3	eastern white
						Balsam fir----------	55	8	pine,
						Red spruce----------	50	8	tamarack.
						White spruce--------	55	9	
						Eastern white pine--	67	8	
44C------------- Mundal	3A	Moderate	Severe	Slight	Slight	American beech------	---	--	White spruce,
						Yellow birch--------	---	--	Norway spruce,
						Paper birch---------	---	--	red spruce,
						Red maple-----------	---	--	balsam fir,
						Sugar maple---------	65	3	Scotch pine,
						White ash-----------	75	3	eastern white
						Balsam fir----------	55	8	pine,
						Red spruce----------	50	8	tamarack.
						White spruce--------	55	9	
						Eastern white pine--	67	8	
44D------------- Mundal	3R	Severe	Severe	Slight	Slight	American beech------	---	--	White spruce,
						Yellow birch--------	---	--	Norway spruce,
						Paper birch---------	---	--	red spruce,
						Red maple-----------	---	--	balsam fir,
						Sugar maple---------	65	3	Scotch pine,
						White ash-----------	75	3	eastern white
						Balsam fir----------	55	8	pine,
						Red spruce----------	50	8	tamarack.
						White spruce--------	55	9	
						Eastern white pine--	67	8	

See footnote at end of table.

TABLE 8.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordination symbol	Management concerns				Potential productivity			Trees to plant
		Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Common trees	Site index	Productivity class*	
44E------------- Mundal	3R	Severe	Severe	Moderate	Slight	American beech------	---	--	White spruce, Norway spruce, red spruce, balsam fir, Scotch pine, eastern white pine, tamarack.
						Yellow birch--------	---	--	
						Paper birch---------	---	--	
						Red maple-----------	---	--	
						Sugar maple---------	65	3	
						White ash-----------	75	3	
						Balsam fir----------	55	8	
						Red spruce----------	50	8	
						White spruce--------	55	9	
						Eastern white pine--	67	8	
46B**, 46C**:									
Berkshire------	9A	Slight	Slight	Slight	Slight	Eastern white pine--	72	9	Eastern white pine, red pine, white spruce, balsam fir.
						Sugar maple---------	52	2	
						Red spruce----------	50	8	
						White ash-----------	62	3	
						Yellow birch--------	55	2	
						Paper birch---------	60	4	
						Balsam fir----------	60	8	
						White spruce--------	55	9	
						Red pine------------	65	8	
Monadnock------	8A	Slight	Slight	Slight	Slight	Eastern white pine--	63	8	Eastern white pine, red pine, white spruce.
						Northern red oak----	55	3	
						Red pine------------	60	6	
						White spruce--------	55	9	
46D**:									
Berkshire------	9R	Moderate	Moderate	Slight	Slight	Eastern white pine--	72	9	Eastern white pine, red pine, white spruce, balsam fir.
						Sugar maple---------	52	2	
						Red spruce----------	50	8	
						White ash-----------	62	3	
						Yellow birch--------	55	2	
						Paper birch---------	60	4	
						Balsam fir----------	60	8	
						White spruce--------	55	9	
						Red pine------------	65	8	
Monadnock------	8R	Moderate	Moderate	Slight	Slight	Eastern white pine--	63	8	Eastern white pine, red pine, white spruce.
						Northern red oak----	55	3	
						Red pine------------	60	6	
						White spruce--------	55	9	
46E**:									
Berkshire------	9R	Severe	Severe	Slight	Slight	Eastern white pine--	72	9	Eastern white pine, red pine, white spruce, balsam fir.
						Sugar maple---------	52	2	
						Red spruce----------	50	8	
						White ash-----------	62	3	
						Yellow birch--------	55	2	
						Paper birch---------	60	4	
						Balsam fir----------	60	8	
						White spruce--------	55	9	
						Red pine------------	65	8	
Monadnock------	8R	Severe	Severe	Slight	Slight	Eastern white pine--	63	8	Eastern white pine, red pine, white spruce.
						Northern red oak----	55	3	
						Red pine------------	60	6	
						White spruce--------	55	9	

See footnote at end of table.

TABLE 8.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordination symbol	Management concerns: Erosion hazard	Management concerns: Equipment limitation	Management concerns: Seedling mortality	Management concerns: Windthrow hazard	Potential productivity: Common trees	Potential productivity: Site index	Potential productivity: Productivity class*	Trees to plant
47-------------- Lupton	2W	Slight	Severe	Severe	Severe	Black spruce--------	20	2	
						Balsam fir----------	46	6	
						Black ash-----------	---	--	
						Northern white-cedar	---	--	
						Paper birch---------	---	--	
						Tamarack------------	---	--	
						Red maple-----------	---	--	
						Quaking aspen-------	---	--	
						White spruce--------	---	--	
48B**:									
Rawsonville----	3A	Slight	Severe	Slight	Moderate	American beech------	64	3	Balsam fir, white spruce, red spruce, Norway spruce.
						Yellow birch--------	55	2	
						Paper birch---------	---	--	
						Sugar maple---------	60	3	
						Red maple-----------	---	--	
						White ash-----------	67	3	
						Red spruce----------	45	7	
						White spruce--------	55	9	
						Balsam fir----------	---	--	
						Eastern hemlock-----	---	--	
Hogback--------	4D	Slight	Severe	Moderate	Severe	American beech------	---	--	Balsam fir, Norway spruce, red spruce, eastern white pine.
						Yellow birch--------	---	--	
						Paper birch---------	---	--	
						Sugar maple---------	---	--	
						Balsam fir----------	48	6	
						Red spruce----------	42	6	
						White spruce--------	55	9	
						Eastern white pine--	55	6	
						Northern red oak----	63	3	
48C**:									
Rawsonville----	3A	Moderate	Severe	Slight	Moderate	American beech------	64	3	Balsam fir, white spruce, red spruce, Norway spruce.
						Yellow birch--------	55	2	
						Paper birch---------	---	--	
						Sugar maple---------	60	3	
						Red maple-----------	---	--	
						White ash-----------	67	3	
						Red spruce----------	45	7	
						White spruce--------	55	9	
						Balsam fir----------	---	--	
						Eastern hemlock-----	---	--	
Hogback--------	4D	Moderate	Severe	Moderate	Severe	American beech------	---	--	Balsam fir, Norway spruce, red spruce, eastern white pine.
						Yellow birch--------	---	--	
						Paper birch---------	---	--	
						Sugar maple---------	---	--	
						Balsam fir----------	48	6	
						Red spruce----------	42	6	
						White spruce--------	55	9	
						Eastern white pine--	55	6	
						Northern red oak----	63	3	

See footnote at end of table.

TABLE 8.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordination symbol	Management concerns: Erosion hazard	Management concerns: Equipment limitation	Management concerns: Seedling mortality	Management concerns: Windthrow hazard	Potential productivity: Common trees	Potential productivity: Site index	Potential productivity: Productivity class*	Trees to plant
48D**:									
Rawsonville----	3R	Severe	Severe	Slight	Moderate	American beech------	64	3	Balsam fir,
						Yellow birch--------	55	2	white spruce,
						Paper birch---------	---	--	red spruce,
						Sugar maple---------	60	3	Norway spruce.
						Red maple-----------	---	--	
						White ash-----------	67	3	
						Red spruce----------	45	7	
						White spruce--------	55	9	
						Balsam fir----------	---	--	
						Eastern hemlock-----	---	--	
Hogback--------	4D	Severe	Severe	Moderate	Severe	American beech------	---	--	Balsam fir,
						Yellow birch--------	---	--	Norway spruce,
						Paper birch---------	---	--	red spruce,
						Sugar maple---------	---	--	eastern white
						Balsam fir----------	48	6	pine.
						Red spruce----------	42	6	
						White spruce--------	55	9	
						Eastern white pine--	55	6	
						Northern red oak----	63	3	
48E**:									
Rawsonville----	3R	Severe	Severe	Slight	Moderate	American beech------	64	3	Balsam fir,
						Yellow birch--------	55	2	white spruce,
						Paper birch---------	---	--	red spruce,
						Sugar maple---------	60	3	Norway spruce.
						Red maple-----------	---	--	
						White ash-----------	67	3	
						Red spruce----------	45	7	
						White spruce--------	55	9	
						Balsam fir----------	---	--	
						Eastern hemlock-----	---	--	
Hogback--------	4R	Severe	Severe	Moderate	Severe	American beech------	---	--	Balsam fir,
						Yellow birch--------	---	--	Norway spruce,
						Paper birch---------	---	--	red spruce,
						Sugar maple---------	---	--	eastern white
						Balsam fir----------	48	6	pine.
						Red spruce----------	42	6	
						White spruce--------	55	9	
						Eastern white pine--	55	6	
						Northern red oak----	63	3	
49B**:									
Houghtonville--	4A	Slight	Severe	Slight	Slight	American beech------	---	--	Balsam fir,
						White ash-----------	---	--	white spruce.
						Yellow birch--------	---	--	
						Paper birch---------	---	--	
						Sugar maple---------	---	--	
						White spruce--------	---	--	
						Red spruce----------	---	--	
						Balsam fir----------	---	--	

See footnote at end of table.

TABLE 8.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordination symbol	Management concerns: Erosion hazard	Management concerns: Equipment limitation	Management concerns: Seedling mortality	Management concerns: Windthrow hazard	Potential productivity: Common trees	Potential productivity: Site index	Potential productivity: Productivity class*	Trees to plant
49B**:									
Rawsonville	4A	Slight	Severe	Slight	Moderate	American beech	---	--	Balsam fir, white spruce, red spruce, Norway spruce, eastern white pine, Scotch pine, tamarack.
						Yellow birch	---	--	
						Paper birch	---	--	
						Sugar maple	---	--	
						Red maple	---	--	
						White ash	---	--	
						Red spruce	---	--	
						Eastern hemlock	---	--	
						White spruce	---	--	
						Balsam fir	---	--	
49C**:									
Houghtonville	4A	Moderate	Severe	Slight	Slight	American beech	---	--	Balsam fir, white spruce.
						White ash	---	--	
						Yellow birch	---	--	
						Paper birch	---	--	
						Sugar maple	---	--	
						White spruce	---	--	
						Red spruce	---	--	
						Balsam fir	---	--	
Rawsonville	4A	Moderate	Severe	Slight	Moderate	American beech	---	--	Balsam fir, white spruce, red spruce, Norway spruce, eastern white pine, Scotch pine, tamarack.
						Yellow birch	---	--	
						Paper birch	---	--	
						Sugar maple	---	--	
						Red maple	---	--	
						White ash	---	--	
						Red spruce	---	--	
						Eastern hemlock	---	--	
						White spruce	---	--	
						Balsam fir	---	--	
49D**:									
Houghtonville	4R	Severe	Severe	Slight	Slight	American beech	---	--	Balsam fir, white spruce.
						White ash	---	--	
						Yellow birch	---	--	
						Paper birch	---	--	
						Sugar maple	---	--	
						White spruce	---	--	
						Red spruce	---	--	
						Balsam fir	---	--	
Rawsonville	4R	Severe	Severe	Slight	Moderate	American beech	---	--	Balsam fir, white spruce, red spruce, Norway spruce, eastern white pine, Scotch pine, tamarack.
						Yellow birch	---	--	
						Paper birch	---	--	
						Sugar maple	---	--	
						Red maple	---	--	
						White ash	---	--	
						Red spruce	---	--	
						Eastern hemlock	---	--	
						White spruce	---	--	
						Balsam fir	---	--	

See footnote at end of table.

TABLE 8.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordination symbol	Management concerns: Erosion hazard	Management concerns: Equipment limitation	Management concerns: Seedling mortality	Management concerns: Windthrow hazard	Potential productivity: Common trees	Potential productivity: Site index	Potential productivity: Productivity class*	Trees to plant
49E**:									
Houghtonville--	4R	Severe	Severe	Slight	Slight	American beech------	---	--	Balsam fir, white spruce.
						White ash-----------	---	--	
						Yellow birch--------	---	--	
						Paper birch---------	---	--	
						Sugar maple---------	---	--	
						White spruce--------	---	--	
						Red spruce----------	---	--	
						Balsam fir----------	---	--	
Rawsonville----	4R	Severe	Severe	Slight	Moderate	American beech------	---	--	Balsam fir, white spruce, red spruce, Norway spruce, eastern white pine, Scotch pine, tamarack.
						Yellow birch--------	---	--	
						Paper birch---------	---	--	
						Sugar maple---------	---	--	
						Red maple-----------	---	--	
						White ash-----------	---	--	
						Red spruce----------	---	--	
						Eastern hemlock-----	---	--	
						White spruce--------	---	--	
						Balsam fir----------	---	--	
50B, 50C-------- Colton	8S	Slight	Slight	Severe	Slight	Eastern white pine--	62	8	Eastern white pine, red pine.
						Red pine------------	52	5	
						Red spruce----------	39	6	
						Sugar maple---------	61	3	
						White spruce--------	52	8	
50D------------- Colton	8S	Moderate	Moderate	Severe	Slight	Eastern white pine--	62	8	Eastern white pine, red pine.
						Red pine------------	52	5	
						Red spruce----------	39	6	
						Sugar maple---------	61	3	
						White spruce--------	52	8	
50E------------- Colton	8R	Severe	Severe	Severe	Slight	Eastern white pine--	62	8	Eastern white pine, red pine.
						Red pine------------	52	5	
						Red spruce----------	39	6	
						Sugar maple---------	61	3	
						White spruce--------	52	8	
52A, 52B-------- Sheepscot	9A	Slight	Slight	Slight	Slight	White spruce--------	55	9	Eastern white pine, white spruce, European larch.
						Red spruce----------	45	7	
						Eastern white pine--	70	9	
						Balsam fir----------	55	8	
						Eastern hemlock-----	---	--	
						American beech------	55	2	
						Paper birch---------	55	3	
						Sugar maple---------	55	2	
						Yellow birch--------	55	2	
						Northern white-cedar	55	--	
56B, 56C-------- Monadnock	8A	Slight	Slight	Slight	Slight	Eastern white pine--	63	8	Eastern white pine, red pine, white spruce.
						Northern red oak----	55	3	
						Red pine------------	60	6	
						White spruce--------	55	9	
56D------------- Monadnock	8R	Moderate	Moderate	Slight	Slight	Eastern white pine--	63	8	Eastern white pine, red pine, white spruce.
						Northern red oak----	55	3	
						Red pine------------	60	6	
						White spruce--------	55	9	

See footnote at end of table.

TABLE 8.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordination symbol	Management concerns: Erosion hazard	Management concerns: Equipment limitation	Management concerns: Seedling mortality	Management concerns: Windthrow hazard	Potential productivity: Common trees	Potential productivity: Site index	Potential productivity: Productivity class*	Trees to plant
56E: Monadnock	8R	Severe	Severe	Slight	Slight	Eastern white pine	63	8	Eastern white pine, red pine, white spruce.
						Northern red oak	55	3	
						Red pine	60	6	
						White spruce	55	9	
60B: Houghtonville	2A	Slight	Severe	Slight	Slight	American beech	55	2	Balsam fir, white spruce, red spruce, Norway spruce, red pine, tamarack, Scotch pine, eastern white pine.
						White ash	65	3	
						Yellow birch	54	2	
						Paper birch	66	4	
						Sugar maple	60	3	
						White spruce	55	9	
						Red spruce	50	8	
						Balsam fir	55	8	
60C: Houghtonville	2A	Moderate	Severe	Slight	Slight	American beech	55	2	Balsam fir, white spruce, red spruce, Norway spruce, red pine, tamarack, Scotch pine, eastern white pine.
						White ash	65	3	
						Yellow birch	54	2	
						Paper birch	66	4	
						Sugar maple	60	3	
						White spruce	55	9	
						Red spruce	50	8	
						Balsam fir	55	8	
60D: Houghtonville	2R	Severe	Severe	Slight	Slight	American beech	55	2	Balsam fir, white spruce, red spruce, Norway spruce, red pine, tamarack, Scotch pine, eastern white pine.
						White ash	65	3	
						Yellow birch	54	2	
						Paper birch	66	4	
						Sugar maple	60	3	
						White spruce	55	9	
						Red spruce	50	8	
						Balsam fir	55	8	
61B: Houghtonville	2A	Slight	Severe	Slight	Slight	American beech	55	2	Balsam fir, white spruce, red spruce, Norway spruce, red pine, tamarack, Scotch pine, eastern white pine.
						White ash	65	3	
						Yellow birch	54	2	
						Paper birch	66	4	
						Sugar maple	60	3	
						White spruce	55	9	
						Red spruce	50	8	
						Balsam fir	55	8	
61C: Houghtonville	2A	Moderate	Severe	Slight	Slight	American beech	55	2	Balsam fir, white spruce, red spruce, Norway spruce, red pine, tamarack, Scotch pine, eastern white pine.
						White ash	65	3	
						Yellow birch	54	2	
						Paper birch	66	4	
						Sugar maple	60	3	
						White spruce	55	9	
						Red spruce	50	8	
						Balsam fir	55	8	

See footnote at end of table.

TABLE 8.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordination symbol	Management concerns: Erosion hazard	Management concerns: Equipment limitation	Management concerns: Seedling mortality	Management concerns: Windthrow hazard	Potential productivity: Common trees	Potential productivity: Site index	Potential productivity: Productivity class*	Trees to plant
61D------------- Houghtonville	2R	Severe	Severe	Slight	Slight	American beech------	55	2	Balsam fir, white spruce, red spruce, Norway spruce, red pine, tamarack, Scotch pine, eastern white pine.
						White ash-----------	65	3	
						Yellow birch--------	54	2	
						Paper birch---------	66	4	
						Sugar maple---------	60	3	
						White spruce--------	55	9	
						Red spruce----------	50	8	
						Balsam fir----------	55	8	
61E------------- Houghtonville	2R	Severe	Severe	Slight	Slight	American beech------	55	2	Balsam fir, white spruce, red spruce, Norway spruce, red pine, tamarack, Scotch pine, eastern white pine.
						White ash-----------	65	3	
						Yellow birch--------	54	2	
						Paper birch---------	66	4	
						Sugar maple---------	60	3	
						White spruce--------	55	9	
						Red spruce----------	50	8	
						Balsam fir----------	50	8	
62-------------- Markey	2W	Slight	Severe	Severe	Severe	Quaking aspen-------	45	3	
						Balsam fir----------	---		
						Black spruce--------	---		
						Tamarack------------	---		
						Black ash-----------	---		
						Northern white-cedar	---		
						Paper birch---------	---		
63C**:									
Berkshire------	9A	Slight	Slight	Slight	Slight	Eastern white pine--	72	9	Eastern white pine, red pine, white spruce, balsam fir.
						Sugar maple---------	52	2	
						Red spruce----------	50	8	
						White ash-----------	62	3	
						Yellow birch--------	55	2	
						Paper birch---------	60	4	
						Balsam fir----------	60	8	
						White spruce--------	55	9	
						Red pine------------	65	8	
Tunbridge------	3A	Slight	Slight	Slight	Moderate	Northern red oak----	---	--	Eastern white pine, white spruce, red spruce, Norway spruce, Scotch pine, balsam fir, tamarack.
						Eastern white pine--	---	--	
						Red spruce----------	50	8	
						Sugar maple---------	60	3	
						Yellow birch--------	55	2	
						Paper birch---------	---	--	
						White spruce--------	55	9	
						Balsam fir----------	---	--	
						White ash-----------	65	3	
63D**:									
Berkshire------	9R	Moderate	Moderate	Slight	Slight	Eastern white pine--	72	9	Eastern white pine, red pine, white spruce, balsam fir.
						Sugar maple---------	52	2	
						Red spruce----------	50	8	
						White ash-----------	62	3	
						Yellow birch--------	55	2	
						Paper birch---------	60	4	
						Balsam fir----------	60	8	
						White spruce--------	55	9	
						Red pine------------	65	8	

See footnote at end of table.

TABLE 8.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordination symbol	Management concerns				Potential productivity			Trees to plant
		Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Common trees	Site index	Productivity class*	
63D**:									
Tunbridge------	3R	Moderate	Moderate	Moderate	Moderate	Northern red oak----	---	--	Eastern white pine, white spruce, red spruce, Norway spruce, Scotch pine, balsam fir, tamarack.
						Eastern white pine--	---	--	
						Red spruce----------	50	8	
						Sugar maple---------	60	3	
						Yellow birch--------	55	2	
						Paper birch---------	---	--	
						White spruce--------	55	9	
						Balsam fir----------	---	--	
						White ash-----------	65	3	
63E**:									
Berkshire------	9R	Severe	Severe	Slight	Slight	Eastern white pine--	72	9	Eastern white pine, red pine, white spruce, balsam fir.
						Sugar maple---------	52	2	
						Red spruce----------	50	8	
						White ash-----------	62	3	
						Yellow birch--------	55	2	
						Paper birch---------	60	4	
						Balsam fir----------	60	8	
						White spruce--------	55	9	
						Red pine------------	65	8	
Tunbridge------	3R	Severe	Severe	Moderate	Moderate	Northern red oak----	---	--	Eastern white pine, white spruce, red spruce, Norway spruce, Scotch pine, balsam fir, tamarack.
						Eastern white pine--	---	--	
						Red spruce----------	50	8	
						Sugar maple---------	60	3	
						Yellow birch--------	55	2	
						Paper birch---------	---	--	
						White spruce--------	55	9	
						Balsam fir----------	---	--	
						White ash-----------	65	3	
65C**:									
Hogback--------	4D	Moderate	Severe	Moderate	Severe	American beech------	---	--	Balsam fir, Norway spruce, red spruce, eastern white pine.
						Yellow birch--------	---	--	
						Paper birch---------	---	--	
						Sugar maple---------	---	--	
						Balsam fir----------	48	6	
						Red spruce----------	42	6	
						White spruce--------	55	9	
						Eastern white pine--	55	6	
						Northern red oak----	63	3	
Rawsonville----	3A	Moderate	Severe	Slight	Moderate	American beech------	64	3	Balsam fir, white spruce, red spruce, Norway spruce.
						Yellow birch--------	55	2	
						Paper birch---------	---	--	
						Sugar maple---------	60	3	
						Red maple-----------	---	--	
						White ash-----------	67	3	
						Red spruce----------	45	7	
						White spruce--------	55	9	
						Balsam fir----------	---	--	
						Eastern hemlock-----	---	--	
65D**:									
Hogback--------	4D	Severe	Severe	Moderate	Severe	American beech------	---	--	Balsam fir, Norway spruce, red spruce, eastern white pine.
						Yellow birch--------	---	--	
						Paper birch---------	---	--	
						Sugar maple---------	---	--	
						Balsam fir----------	48	6	
						Red spruce----------	42	6	
						White spruce--------	55	9	
						Eastern white pine--	55	6	
						Northern red oak----	63	3	

See footnote at end of table.

TABLE 8.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordination symbol	Management concerns: Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Potential productivity: Common trees	Site index	Productivity class*	Trees to plant
65D**:									
Rawsonville----	3R	Severe	Severe	Moderate	Moderate	American beech------	64	3	Balsam fir,
						Yellow birch--------	55	2	white spruce,
						Paper birch---------	---	--	red spruce,
						Sugar maple---------	60	3	Norway spruce.
						Red maple-----------	---	--	
						White ash-----------	67	3	
						Red spruce----------	45	7	
						White spruce--------	55	9	
						Balsam fir----------	---	--	
						Eastern hemlock-----	---	--	
65E**:									
Hogback--------	4R	Severe	Severe	Moderate	Severe	American beech------	---	--	Balsam fir,
						Yellow birch--------	---	--	Norway spruce,
						Paper birch---------	---	--	red spruce,
						Sugar maple---------	---	--	eastern white
						Balsam fir----------	48	6	pine.
						Red spruce----------	42	6	
						White spruce--------	55	9	
						Eastern white pine--	55	6	
						Northern red oak----	63	3	
Rawsonville----	3R	Severe	Severe	Moderate	Moderate	American beech------	64	3	Balsam fir,
						Yellow birch--------	55	2	white spruce,
						Paper birch---------	---	--	red spruce,
						Sugar maple---------	60	3	Norway spruce.
						Red maple-----------	---	--	
						White ash-----------	67	3	
						Red spruce----------	45	7	
						White spruce--------	55	9	
						Balsam fir----------	---	--	
						Eastern hemlock-----	---	--	
66B**:									
Houghtonville--	2A	Slight	Severe	Slight	Slight	American beech------	55	2	Balsam fir,
						White ash-----------	65	3	white spruce,
						Yellow birch--------	54	2	red spruce,
						Paper birch---------	66	4	Norway spruce,
						Sugar maple---------	60	3	red pine,
						White spruce--------	55	9	tamarack,
						Red spruce----------	50	8	Scotch pine,
						Balsam fir----------	55	8	eastern white pine.
Rawsonville----	3A	Slight	Severe	Slight	Moderate	American beech------	64	3	Balsam fir,
						Yellow birch--------	55	2	white spruce,
						Paper birch---------	---	--	red spruce,
						Sugar maple---------	60	3	Norway spruce.
						Red maple-----------	---	--	
						White ash-----------	67	3	
						Red spruce----------	45	7	
						White spruce--------	55	9	
						Balsam fir----------	---	--	
						Eastern hemlock-----	---	--	

See footnote at end of table.

TABLE 8.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordination symbol	Management concerns: Erosion hazard	Management concerns: Equipment limitation	Management concerns: Seedling mortality	Management concerns: Windthrow hazard	Potential productivity: Common trees	Potential productivity: Site index	Potential productivity: Productivity class*	Trees to plant
66C**:									
Houghtonville--	2A	Moderate	Severe	Slight	Slight	American beech------	55	2	Balsam fir, white spruce, red spruce, Norway spruce, red pine, tamarack, Scotch pine, eastern white pine.
						White ash-----------	65	3	
						Yellow birch--------	54	2	
						Paper birch---------	66	4	
						Sugar maple---------	60	3	
						White spruce--------	55	9	
						Red spruce----------	50	8	
						Balsam fir----------	55	8	
Rawsonville----	3A	Moderate	Severe	Slight	Moderate	American beech------	64	3	Balsam fir, white spruce, red spruce, Norway spruce.
						Yellow birch--------	55	2	
						Paper birch---------	---	--	
						Sugar maple---------	60	3	
						Red maple-----------	---	--	
						White ash-----------	67	3	
						Red spruce----------	45	7	
						White spruce--------	55	9	
						Balsam fir----------	---	--	
						Eastern hemlock-----	---	--	
67B**, 67C**:									
Berkshire------	9A	Slight	Slight	Slight	Slight	Eastern white pine--	72	9	Eastern white pine, red pine, white spruce, balsam fir.
						Sugar maple---------	52	2	
						Red spruce----------	50	8	
						White ash-----------	62	3	
						Yellow birch--------	55	2	
						Paper birch---------	60	4	
						Balsam fir----------	60	8	
						White spruce--------	55	9	
						Red pine------------	65	8	
Tunbridge------	3A	Slight	Slight	Slight	Moderate	Northern red oak----	---	--	Eastern white pine, white spruce, red spruce, Norway spruce, Scotch pine, balsam fir, tamarack.
						Eastern white pine--	---	--	
						Red spruce----------	50	8	
						Sugar maple---------	60	3	
						Yellow birch--------	55	2	
						Paper birch---------	---	--	
						White spruce--------	55	9	
						Balsam fir----------	---	--	
						White ash-----------	65	3	
68D**:									
Taconic--------	2D	Moderate	Moderate	Severe	Severe	Sugar maple---------	50	2	Eastern white pine, red pine, white spruce, balsam fir, Norway spruce.
						White spruce--------	50	8	
						Balsam fir----------	50	7	
						Red spruce----------	40	6	
						American beech------	---	--	
						Paper birch---------	53	3	
						Eastern hemlock-----	---	--	
						White oak-----------	50	2	
						Northern red oak----	50	2	

See footnote at end of table.

TABLE 8.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordi- nation symbol	Management concerns				Potential productivity			Trees to plant
		Erosion hazard	Equip- ment limita- tion	Seedling mortal- ity	Wind- throw hazard	Common trees	Site index	Produc- tivity class*	
68D**:									
Hubbardton-----	5D	Moderate	Moderate	Severe	Severe	White oak-----------	---	--	
						Northern red oak----	50	2	
						Black oak-----------	---	--	
						Red maple-----------	---	--	
						Hickory-------------	---	--	
						American hornbeam---	---	--	
						Sugar maple---------	---	--	
						Eastern white pine--	50	6	
						Eastern hemlock-----	---	--	
						Red spruce----------	35	5	
Rock outcrop.									
68E**:									
Taconic--------	2R	Severe	Severe	Severe	Severe	Sugar maple---------	50	2	Eastern white pine, red pine, white spruce, balsam fir, Norway spruce.
						White spruce--------	50	8	
						Balsam fir----------	50	7	
						Red spruce----------	40	6	
						American beech------	---	--	
						Paper birch---------	53	3	
						Eastern hemlock-----	---	--	
						White oak-----------	50	2	
						Northern red oak----	50	2	
Hubbardton-----	5R	Severe	Severe	Severe	Severe	White oak-----------	---	--	
						Northern red oak----	50	2	
						Black oak-----------	---	--	
						Red maple-----------	---	--	
						Hickory-------------	---	--	
						American hornbeam---	---	--	
						Sugar maple---------	---	--	
						Eastern white pine--	50	6	
						Eastern hemlock-----	---	--	
						Red spruce----------	35	5	
Rock outcrop.									
69C**:									
Macomber-------	3A	Slight	Slight	Slight	Slight	Sugar maple---------	65	3	Eastern white pine, red pine, white spruce, balsam fir, Norway spruce.
						White spruce--------	65	10	
						Balsam fir----------	65	9	
						Red spruce----------	55	9	
						American beech------	---	--	
						Paper birch---------	70	4	
						Eastern hemlock-----	---	--	
						White oak-----------	70	4	
						Northern red oak----	70	4	
Taconic--------	2D	Slight	Slight	Moderate	Severe	Sugar maple---------	50	2	Eastern white pine, red pine, white spruce, balsam fir, Norway spruce.
						White spruce--------	50	8	
						Balsam fir----------	50	7	
						Red spruce----------	40	6	
						American beech------	---	--	
						Paper birch---------	53	3	
						Eastern hemlock-----	---	--	
						White oak-----------	50	2	
						Northern red oak----	50	2	

See footnote at end of table.

TABLE 8.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordination symbol	Management concerns				Potential productivity			Trees to plant
		Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Common trees	Site index	Productivity class*	
69D**:									
Macomber	3R	Moderate	Moderate	Slight	Slight	Sugar maple	65	3	Eastern white pine, red pine, white spruce, balsam fir, Norway spruce.
						White spruce	65	10	
						Balsam fir	65	9	
						Red spruce	55	9	
						American beech	---	--	
						Paper birch	70	4	
						Eastern hemlock	---	--	
						White oak	70	4	
						Northern red oak	70	4	
Taconic	2D	Moderate	Moderate	Moderate	Severe	Sugar maple	50	2	Eastern white pine, red pine, white spruce, balsam fir, Norway spruce.
						White spruce	50	8	
						Balsam fir	50	7	
						Red spruce	40	6	
						American beech	---	--	
						Paper birch	53	3	
						Eastern hemlock	---	--	
						White oak	50	2	
						Northern red oak	50	2	
69E**:									
Macomber	3R	Severe	Severe	Slight	Slight	Sugar maple	65	3	Eastern white pine, red pine, white spruce, balsam fir, Norway spruce.
						White spruce	65	10	
						Balsam fir	65	9	
						Red spruce	55	9	
						American beech	---	--	
						Paper birch	70	4	
						Eastern hemlock	---	--	
						White oak	70	4	
						Northern red oak	70	4	
Taconic	2R	Severe	Severe	Moderate	Severe	Sugar maple	50	2	Eastern white pine, red pine, white spruce, balsam fir, Norway spruce.
						White spruce	50	8	
						Balsam fir	50	7	
						Red spruce	40	6	
						American beech	---	--	
						Paper birch	53	3	
						Eastern hemlock	---	--	
						White oak	50	2	
						Northern red oak	50	2	
70C**:									
Dummerston	3A	Slight	Slight	Slight	Slight	Northern red oak	61	--	Eastern white pine, European larch, white spruce, red spruce, Norway spruce, red pine, Scotch pine.
						White oak	---	--	
						Hickory	---	--	
						Red maple	---	--	
						Sugar maple	---	--	
						White ash	---	--	
						Eastern hemlock	---	--	
						Eastern white pine	70	--	
						American beech	---	--	
						Paper birch	---	--	
						Black cherry	---	--	

See footnote at end of table.

TABLE 8.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordi-nation symbol	Management concerns				Potential productivity			Trees to plant
		Erosion hazard	Equip-ment limita-tion	Seedling mortal-ity	Wind-throw hazard	Common trees	Site index	Produc-tivity class*	
70C**:									
Macomber--------	3A	Slight	Slight	Slight	Slight	Sugar maple----------	65	3	Eastern white pine, red pine, white spruce, balsam fir, Norway spruce.
						White spruce---------	65	10	
						Balsam fir-----------	65	9	
						Red spruce-----------	55	9	
						American beech-------	---	--	
						Paper birch----------	70	4	
						Eastern hemlock------	---	--	
						White oak------------	70	4	
						Northern red oak-----	70	4	
70D**:									
Dummerston------	3R	Moderate	Moderate	Slight	Slight	Northern red oak-----	61	--	Eastern white pine, European larch, white spruce, red spruce, Norway spruce, red pine, Scotch pine.
						White oak------------	---	--	
						Hickory--------------	---	--	
						Red maple------------	---	--	
						Sugar maple----------	---	--	
						White ash------------	---	--	
						Eastern hemlock------	70	--	
						Eastern white pine---	---	--	
						American beech-------	---	--	
						Paper birch----------	---	--	
						Black cherry---------	---	--	
Macomber--------	3R	Moderate	Moderate	Slight	Slight	Sugar maple----------	65	3	Eastern white pine, red pine, white spruce, balsam fir, Norway spruce.
						White spruce---------	65	10	
						Balsam fir-----------	65	9	
						Red spruce-----------	55	9	
						American beech-------	---	--	
						Paper birch----------	70	4	
						Eastern hemlock------	---	--	
						White oak------------	70	4	
						Northern red oak-----	70	4	
70E**:									
Dummerston------	3R	Severe	Slight	Slight	Slight	Northern red oak-----	61	--	Eastern white pine, European larch, white spruce, red spruce, Norway spruce, red pine, Scotch pine.
						White oak------------	---	--	
						Hickory--------------	---	--	
						Red maple------------	---	--	
						Sugar maple----------	---	--	
						White ash------------	---	--	
						Eastern hemlock------	---	--	
						Eastern white pine---	70	--	
						American beech-------	---	--	
						Paper birch----------	---	--	
						Black cherry---------	---	--	
Macomber--------	3R	Severe	Severe	Slight	Slight	Sugar maple----------	65	3	Eastern white pine, red pine, white spruce, balsam fir, Norway spruce.
						White spruce---------	65	10	
						Balsam fir-----------	65	9	
						Red spruce-----------	55	9	
						American beech-------	---	--	
						Paper birch----------	70	4	
						Eastern hemlock------	---	--	
						White oak------------	70	4	
						Northern red oak-----	70	4	

See footnote at end of table.

TABLE 8.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordi-nation symbol	Management concerns: Erosion hazard	Equip-ment limita-tion	Seedling mortal-ity	Wind-throw hazard	Potential productivity: Common trees	Site index	Produc-tivity class*	Trees to plant
71B, 71C-------- Dummerston	3A	Slight	Slight	Slight	Slight	Northern red oak----	61	3	Eastern white pine, European larch, white spruce, Scotch pine, red pine, red spruce, Norway spruce.
						White oak-----------	---	--	
						Hickory-------------	---	--	
						Red maple-----------	---	--	
						Sugar maple---------	---	--	
						White ash-----------	---	--	
						Eastern hemlock-----	---	--	
						Eastern white pine--	70	--	
						American beech------	---	--	
						Paper birch---------	---	--	
						Black cherry--------	---	--	
71D------------- Dummerston	3R	Moderate	Moderate	Slight	Slight	Northern red oak----	61	3	Eastern white pine, European larch, white spruce, Scotch pine, red pine, red spruce, Norway spruce.
						White oak-----------	---	--	
						Hickory-------------	---	--	
						Red maple-----------	---	--	
						Sugar maple---------	---	--	
						White ash-----------	---	--	
						Eastern hemlock-----	---	--	
						Eastern white pine--	70	--	
						American beech------	---	--	
						Paper birch---------	---	--	
						Black cherry--------	---	--	
72C------------- Dummerston	3A	Slight	Slight	Slight	Slight	Northern red oak----	61	--	Eastern white pine, European larch, white spruce, red spruce, Norway spruce, red pine, Scotch pine.
						White oak-----------	---	--	
						Hickory-------------	---	--	
						Red maple-----------	---	--	
						Sugar maple---------	---	--	
						White ash-----------	---	--	
						Eastern hemlock-----	---	--	
						Eastern white pine--	70	--	
						American beech------	---	--	
						Paper birch---------	---	--	
						Black cherry--------	---	--	
72D------------- Dummerston	3R	Moderate	Moderate	Slight	Slight	Northern red oak----	61	--	Eastern white pine, European larch, white spruce, red spruce, Norway spruce, red pine, Scotch pine.
						White oak-----------	---	--	
						Hickory-------------	---	--	
						Red maple-----------	---	--	
						Sugar maple---------	---	--	
						White ash-----------	---	--	
						Eastern hemlock-----	---	--	
						Eastern white pine--	70	--	
						American beech------	---	--	
						Paper birch---------	---	--	
						Black cherry--------	---	--	
72E------------- Dummerston	3R	Severe	Slight	Slight	Slight	Northern red oak----	61	--	Eastern white pine, European larch, white spruce, red spruce, Norway spruce, red pine, Scotch pine.
						White oak-----------	---	--	
						Hickory-------------	---	--	
						Red maple-----------	---	--	
						Sugar maple---------	---	--	
						White ash-----------	---	--	
						Eastern hemlock-----	---	--	
						Eastern white pine--	70	--	
						American beech------	---	--	
						Paper birch---------	---	--	
						Black cherry--------	---	--	

See footnote at end of table.

TABLE 8.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordination symbol	Management concerns: Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Potential productivity: Common trees	Site index	Productivity class*	Trees to plant
73B, 73C: Fullam	3A	Slight	Slight	Slight	Slight	Northern red oak	65	3	Eastern white pine, eastern hemlock, balsam fir, white spruce, Scotch pine, Norway spruce, tamarack.
						Sugar maple	---	--	
						Eastern white pine	---	--	
						Eastern hemlock	---	--	
						Red spruce	50	8	
						Balsam fir	55	8	
						American beech	---	--	
						Paper birch	---	--	
						Yellow birch	---	--	
						White ash	---	--	
						Hickory	---	--	
73D: Fullam	3R	Moderate	Moderate	Slight	Slight	Northern red oak	65	3	Eastern white pine, eastern hemlock, balsam fir, white spruce, Scotch pine, Norway spruce, tamarack.
						Sugar maple	---	--	
						Eastern white pine	---	--	
						Eastern hemlock	---	--	
						Red spruce	50	8	
						Balsam fir	55	8	
						American beech	---	--	
						Paper birch	---	--	
						Yellow birch	---	--	
						White ash	---	--	
						Hickory	---	--	
74B, 74C: Fullam	3A	Slight	Slight	Slight	Slight	Northern red oak	65	3	Eastern white pine, balsam fir, white spruce, Scotch pine.
						Sugar maple	---	--	
						Eastern white pine	---	--	
						Red spruce	50	8	
						Balsam fir	55	8	
						American beech	---	--	
						Paper birch	---	--	
						Yellow birch	---	--	
						White ash	---	--	
						Hickory	---	--	
						Eastern hemlock	---	--	
74D, 74E: Fullam	3R	Moderate	Moderate	Slight	Slight	Northern red oak	65	3	Eastern white pine, balsam fir, white spruce, Scotch pine.
						Sugar maple	---	--	
						Eastern white pine	---	--	
						Red spruce	50	8	
						Balsam fir	55	8	
						American beech	---	--	
						Paper birch	---	--	
						Yellow birch	---	--	
						White ash	---	--	
						Hickory	---	--	
						Eastern hemlock	---	--	
75B: Brayton	4W	Slight	Severe	Moderate	Severe	Red spruce	45	--	Black spruce, red spruce, tamarack.
						White spruce	48	--	
						Black spruce	---	--	
						Balsam fir	48	--	
						Eastern white pine	72	--	
						Red maple	65	--	
						Paper birch	60	--	

See footnote at end of table.

TABLE 8.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordination symbol	Management concerns				Potential productivity			Trees to plant
		Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Common trees	Site index	Productivity class*	
76B**, 76C**:									
Dummerston-----	3A	Slight	Slight	Slight	Slight	Northern red oak----	61	3	Eastern white pine, European larch, white spruce, Scotch pine, red pine, red spruce, Norway spruce.
						White oak-----------	---	--	
						Hickory-------------	---	--	
						Red maple-----------	---	--	
						Sugar maple---------	---	--	
						White ash-----------	---	--	
						Eastern hemlock-----	---	--	
						Eastern white pine--	70	--	
						American beech------	---	--	
						Paper birch---------	---	--	
						Black cherry--------	---	--	
Macomber--------	3A	Slight	Slight	Slight	Slight	Sugar maple---------	65	3	Eastern white pine, red pine, white spruce, balsam fir, Norway spruce.
						White spruce--------	65	10	
						Balsam fir----------	65	9	
						Red spruce----------	55	9	
						American beech------	---	--	
						Paper birch---------	70	4	
						Eastern hemlock-----	---	--	
						White oak-----------	70	4	
						Northern red oak----	70	4	

* Productivity class is the yield in cubic meters per hectare per year calculated at the age of culmination of mean annual increment for fully stocked natural stands.

** See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 9.--RECREATIONAL DEVELOPMENT

(Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "moderate," and "severe." Absence of an entry indicates that the soil was not rated)

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
1A------------------- Unadilla	Slight---------	Slight---------	Slight---------	Slight---------	Slight.
1B------------------- Unadilla	Slight---------	Slight---------	Moderate: slope.	Moderate: erodes easily.	Slight.
1C------------------- Unadilla	Moderate: slope.	Moderate: slope.	Severe: slope.	Severe: erodes easily.	Moderate: slope.
1D------------------- Unadilla	Severe: slope.	Severe: slope.	Severe: slope.	Severe: erodes easily.	Severe: slope.
1E. Udorthents					
2A------------------- Belgrade	Moderate: wetness.	Moderate: wetness.	Moderate: wetness.	Severe: erodes easily.	Moderate: wetness.
3B*:					
Quonset--------------	Slight---------	Slight---------	Moderate: slope, small stones.	Severe: slope.	Severe: droughty.
Warwick--------------	Moderate: small stones.	Moderate: small stones.	Severe: small stones.	Slight---------	Severe: small stones.
3C*:					
Quonset--------------	Moderate: slope.	Moderate: slope.	Severe: slope.	Severe: slope.	Severe: droughty.
Warwick--------------	Moderate: slope, small stones.	Moderate: slope, small stones.	Severe: slope, small stones.	Slight---------	Severe: small stones.
3D*:					
Quonset--------------	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: droughty, slope.
Warwick--------------	Severe: slope.	Severe: slope.	Severe: slope, small stones.	Moderate: slope.	Severe: slope, small stones.
3E*:					
Quonset--------------	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: droughty, slope.
Warwick--------------	Severe: slope.	Severe: slope.	Severe: slope, small stones.	Severe: slope.	Severe: slope, small stones.
5B------------------- Windsor	Slight---------	Slight---------	Moderate: slope.	Slight---------	Moderate: droughty.

See footnote at end of table.

TABLE 9.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
5C: Windsor	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight	Moderate: slope, droughty.
5D: Windsor	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.
5E: Windsor	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
9B: Deerfield	Moderate: wetness.	Moderate: wetness.	Moderate: slope, wetness.	Slight	Moderate: wetness.
10A: Agawam	Slight	Slight	Slight	Slight	Slight.
10B: Agawam	Slight	Slight	Moderate: slope.	Slight	Slight.
11B*:					
Berkshire	Slight	Slight	Moderate: slope, small stones.	Slight	Slight.
Monadnock	Slight	Slight	Moderate: slope, small stones.	Slight	Slight.
11C*:					
Berkshire	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight	Moderate: slope.
Monadnock	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight	Moderate: slope.
11D*:					
Berkshire	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.
Monadnock	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.
12C*:					
Stratton	Severe: large stones, depth to rock, fragile.	Severe: large stones, depth to rock, fragile.	Severe: large stones, slope, depth to rock.	Severe: erodes easily, fragile.	Severe: thin layer.
Glebe	Severe: large stones, fragile.	Severe: large stones, fragile.	Severe: large stones, slope, fragile.	Severe: erodes easily, fragile.	Moderate: small stones.
12D*:					
Stratton	Severe: slope, large stones, depth to rock.	Severe: slope, large stones, depth to rock.	Severe: large stones, slope, depth to rock.	Severe: erodes easily, fragile.	Severe: slope, thin layer.

See footnote at end of table.

TABLE 9.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
12D*: Glebe	Severe: slope, large stones, fragile.	Severe: slope, large stones, fragile.	Severe: large stones, slope, fragile.	Severe: erodes easily, fragile.	Severe: slope.
12E*: Stratton	Severe: slope, large stones, depth to rock.	Severe: slope, large stones, depth to rock.	Severe: large stones, slope, depth to rock.	Severe: slope, erodes easily, fragile.	Severe: slope, thin layer.
Glebe	Severe: slope, large stones, fragile.	Severe: slope, large stones, fragile.	Severe: large stones, slope, fragile.	Severe: slope, erodes easily, fragile.	Severe: slope.
16B Adams	Slight	Slight	Moderate: slope.	Slight	Severe: droughty.
16C Adams	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight	Severe: droughty.
16D Adams	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope, droughty.
16E Adams	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope, droughty.
17B Worden	Severe: wetness, fragile.	Severe: wetness, fragile.	Severe: wetness, fragile.	Severe: wetness, slope, erodes easily.	Moderate: wetness, droughty.
17C Worden	Severe: wetness, fragile.	Severe: wetness, fragile.	Severe: slope, wetness, fragile.	Severe: wetness, slope, erodes easily.	Moderate: wetness, droughty, slope.
18B Worden	Severe: wetness, large stones, fragile.	Severe: wetness, large stones, fragile.	Severe: wetness, large stones, fragile.	Severe: wetness, erodes easily, fragile.	Severe: large stones.
18C Worden	Severe: wetness, large stones, fragile.	Severe: wetness, large stones, fragile.	Severe: large stones, slope, wetness.	Severe: wetness, erodes easily, fragile.	Moderate: large stones, wetness, slope.
18D Worden	Severe: slope, wetness, large stones.	Severe: slope, wetness, large stones.	Severe: large stones, slope, wetness.	Severe: wetness, erodes easily, fragile.	Severe: large stones, slope.
20B*: Tunbridge	Moderate: small stones.	Moderate: small stones.	Severe: large stones, small stones.	Slight	Moderate: small stones, large stones, droughty.

See footnote at end of table.

TABLE 9.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
20B*:					
Lyman	Severe: depth to rock.	Severe: depth to rock.	Severe: large stones, depth to rock.	Slight	Severe: thin layer, droughty.
20C*:					
Tunbridge	Moderate: slope, small stones.	Moderate: slope, small stones.	Severe: large stones, slope, small stones.	Slight	Moderate: small stones, large stones, droughty.
Lyman	Severe: depth to rock.	Severe: depth to rock.	Severe: slope, large stones, depth to rock.	Slight	Severe: thin layer, droughty.
20D*:					
Tunbridge	Severe: slope.	Severe: slope.	Severe: large stones, slope, small stones.	Moderate: slope.	Moderate: small stones, large stones, droughty.
Lyman	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: slope, large stones, depth to rock.	Moderate: slope.	Severe: slope, thin layer, droughty.
20E*:					
Tunbridge	Severe: slope.	Severe: slope.	Severe: large stones, slope, small stones.	Severe: slope.	Moderate: small stones, large stones, droughty.
Lyman	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: slope, large stones, depth to rock.	Severe: slope.	Severe: slope, thin layer, droughty.
21B Marlow	Moderate: percs slowly.	Moderate: percs slowly.	Moderate: slope, small stones.	Slight	Slight.
21C Marlow	Moderate: slope, percs slowly.	Moderate: slope, percs slowly.	Severe: slope.	Slight	Moderate: slope.
21D Marlow	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.
22B Marlow	Moderate: percs slowly.	Moderate: percs slowly.	Moderate: large stones, slope.	Slight	Moderate: large stones.
22C Marlow	Moderate: slope, percs slowly.	Moderate: slope, percs slowly.	Severe: slope.	Slight	Moderate: large stones, slope.
22D Marlow	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.

See footnote at end of table.

TABLE 9.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
22E----- Marlow	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
23----- Ondawa	Severe: flooding.	Moderate: flooding.	Severe: flooding.	Moderate: flooding.	Severe: flooding.
24----- Podunk	Severe: flooding.	Moderate: flooding, wetness.	Severe: flooding.	Moderate: flooding, wetness.	Severe: flooding.
25B----- Westbury	Moderate: wetness, percs slowly.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.
25C----- Westbury	Moderate: slope, wetness, percs slowly.	Moderate: slope, wetness.	Severe: slope, wetness.	Moderate: wetness.	Moderate: slope, wetness.
26B----- Westbury	Moderate: wetness, large stones.	Moderate: wetness.	Severe: large stones, wetness.	Moderate: large stones, wetness.	Moderate: wetness, large stones.
26C----- Westbury	Moderate: slope, wetness, large stones.	Moderate: slope, wetness.	Severe: slope, large stones, wetness.	Moderate: large stones, wetness.	Moderate: slope, wetness, large stones.
26D----- Westbury	Severe: slope, wetness, large stones.	Severe: slope, wetness.	Severe: slope, large stones, wetness.	Moderate: large stones, wetness.	Severe: large stones, slope.
29----- Walpole	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
31B----- Wilmington	Severe: wetness, large stones, fragile.	Severe: wetness, large stones, fragile.	Severe: wetness, large stones, fragile.	Severe: wetness, erodes easily, fragile.	Severe: wetness, thin layer.
33----- Rumney	Severe: flooding, wetness.	Severe: wetness.	Severe: wetness, flooding.	Severe: wetness.	Severe: flooding, wetness.
34C*:					
Lyman-----	Severe: depth to rock.	Severe: depth to rock.	Severe: slope, large stones, depth to rock.	Slight-----	Severe: thin layer, droughty.
Rock outcrop.					
34D*:					
Lyman-----	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: slope, large stones, depth to rock.	Moderate: slope.	Severe: slope, thin layer, droughty.
Rock outcrop.					

See footnote at end of table.

TABLE 9.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
34E*:					
Lyman	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: slope, large stones, depth to rock.	Severe: slope.	Severe: slope, thin layer, droughty.
Rock outcrop.					
37 Hadley	Severe: flooding.	Moderate: flooding.	Severe: flooding.	Slight	Severe: flooding.
39 Winooski	Severe: flooding.	Moderate: flooding, wetness.	Severe: flooding.	Slight	Severe: flooding.
40 Limerick	Severe: flooding, wetness.	Severe: wetness.	Severe: wetness, flooding.	Severe: wetness.	Severe: flooding, wetness.
41D*:					
Londonderry	Severe: slope, depth to rock, fragile.	Severe: slope, depth to rock, fragile.	Severe: slope, depth to rock, fragile.	Severe: erodes easily, fragile.	Severe: slope, thin layer.
Stratton	Severe: slope, depth to rock, fragile.	Severe: slope, depth to rock, fragile.	Severe: slope, depth to rock, fragile.	Severe: erodes easily, fragile.	Severe: slope, thin layer.
41E*:					
Londonderry	Severe: slope, depth to rock, fragile.	Severe: slope, depth to rock, fragile.	Severe: slope, depth to rock, fragile.	Severe: slope, erodes easily, fragile.	Severe: slope, thin layer.
Stratton	Severe: slope, depth to rock, fragile.	Severe: slope, depth to rock, fragile.	Severe: slope, depth to rock, fragile.	Severe: slope, erodes easily, fragile.	Severe: slope, thin layer.
43B Mundal	Severe: fragile.	Severe: fragile.	Severe: fragile.	Severe: erodes easily, fragile.	Moderate: large stones, wetness.
43C Mundal	Severe: fragile.	Severe: fragile.	Severe: slope, fragile.	Severe: erodes easily, fragile.	Moderate: large stones, wetness, slope.
43D Mundal	Severe: slope, fragile.	Severe: slope, fragile.	Severe: slope, fragile.	Severe: erodes easily, fragile.	Severe: slope.
44B Mundal	Severe: large stones, fragile.	Severe: large stones, fragile.	Severe: large stones, fragile.	Severe: erodes easily, fragile.	Severe: large stones.

See footnote at end of table.

TABLE 9.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
44C------------------- Mundal	Severe: large stones, fragile.	Severe: large stones, fragile.	Severe: large stones, slope, fragile.	Severe: erodes easily, fragile.	Severe: large stones.
44D------------------- Mundal	Severe: slope, large stones, fragile.	Severe: slope, large stones, fragile.	Severe: large stones, slope, fragile.	Severe: erodes easily, fragile.	Severe: large stones, slope.
44E------------------- Mundal	Severe: slope, large stones, fragile.	Severe: slope, large stones, fragile.	Severe: large stones, slope, fragile.	Severe: slope, erodes easily, fragile.	Severe: large stones, slope.
46B*:					
Berkshire------------	Moderate: large stones.	Moderate: large stones.	Severe: large stones.	Slight----------	Moderate: large stones.
Monadnock------------	Moderate: large stones.	Moderate: large stones.	Severe: small stones.	Slight----------	Moderate: large stones.
46C*:					
Berkshire------------	Moderate: slope, large stones.	Moderate: slope, large stones.	Severe: slope, large stones.	Slight----------	Moderate: slope, large stones.
Monadnock------------	Moderate: slope, large stones.	Moderate: slope, large stones.	Severe: slope, small stones.	Slight----------	Moderate: large stones, slope.
46D*:					
Berkshire------------	Severe: slope.	Severe: slope.	Severe: slope, large stones.	Moderate: slope.	Severe: slope.
Monadnock------------	Severe: slope.	Severe: slope.	Severe: slope, small stones.	Moderate: slope.	Severe: slope.
46E*:					
Berkshire------------	Severe: slope.	Severe: slope.	Severe: slope, large stones.	Severe: slope.	Severe: slope.
Monadnock------------	Severe: slope.	Severe: slope.	Severe: slope, small stones.	Severe: slope.	Severe: slope.
47-------------------- Lupton	Severe: ponding, excess humus.	Severe: ponding, excess humus.	Severe: excess humus, ponding.	Severe: ponding, excess humus.	Severe: ponding, excess humus.
48B*:					
Rawsonville----------	Severe: large stones, fragile.	Severe: large stones, fragile.	Severe: large stones, fragile.	Severe: erodes easily, fragile.	Severe: large stones.

See footnote at end of table.

TABLE 9.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
48B*:					
Hogback	Severe: large stones, depth to rock, fragile.	Severe: large stones, depth to rock, fragile.	Severe: large stones, depth to rock, fragile.	Severe: erodes easily, fragile.	Severe: large stones, thin layer.
48C*:					
Rawsonville	Severe: large stones, fragile.	Severe: large stones, fragile.	Severe: large stones, slope, fragile.	Severe: erodes easily, fragile.	Severe: large stones.
Hogback	Severe: large stones, depth to rock, fragile.	Severe: large stones, depth to rock, fragile.	Severe: large stones, slope, depth to rock.	Severe: erodes easily, fragile.	Severe: large stones, thin layer.
48D*:					
Rawsonville	Severe: slope, large stones, fragile.	Severe: slope, large stones, fragile.	Severe: large stones, slope, fragile.	Severe: erodes easily, fragile.	Severe: large stones, slope.
Hogback	Severe: slope, large stones, depth to rock.	Severe: slope, large stones, depth to rock.	Severe: large stones, slope, depth to rock.	Severe: erodes easily, fragile.	Severe: large stones, slope, thin layer.
48E*:					
Rawsonville	Severe: slope, large stones, fragile.	Severe: slope, large stones, fragile.	Severe: large stones, slope, fragile.	Severe: slope, erodes easily, fragile.	Severe: large stones, slope.
Hogback	Severe: slope, large stones, depth to rock.	Severe: slope, large stones, depth to rock.	Severe: large stones, slope, depth to rock.	Severe: slope, erodes easily, fragile.	Severe: large stones, slope, thin layer.
49B*, 49C*:					
Houghtonville	Severe: large stones, fragile.	Severe: large stones, fragile.	Severe: large stones, slope, fragile.	Severe: erodes easily, fragile.	Severe: large stones.
Rawsonville	Severe: large stones, fragile.	Severe: large stones, fragile.	Severe: large stones, slope, fragile.	Severe: erodes easily, fragile.	Severe: large stones.
49D*:					
Houghtonville	Severe: slope, large stones, fragile.	Severe: slope, large stones, fragile.	Severe: large stones, slope, fragile.	Severe: erodes easily, fragile.	Severe: large stones, slope.
Rawsonville	Severe: slope, large stones, fragile.	Severe: slope, large stones, fragile.	Severe: large stones, slope, fragile.	Severe: erodes easily, fragile.	Severe: large stones, slope.

See footnote at end of table.

TABLE 9.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
49E*:					
Houghtonville	Severe: slope, large stones, fragile.	Severe: slope, large stones, fragile.	Severe: large stones, slope, fragile.	Severe: erodes easily, fragile, slope.	Severe: large stones, slope.
Rawsonville	Severe: slope, large stones, fragile.	Severe: slope, large stones, fragile.	Severe: large stones, slope, fragile.	Severe: erodes easily, fragile, slope.	Severe: large stones, slope.
50B Colton	Slight	Slight	Moderate: slope.	Slight	Severe: droughty.
50C Colton	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight	Severe: droughty.
50D Colton	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: droughty, slope.
50E Colton	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: droughty, slope.
52A, 52B Sheepscot	Moderate: small stones, wetness.	Moderate: wetness, small stones.	Severe: small stones.	Moderate: wetness.	Severe: droughty.
56B Monadnock	Moderate: large stones.	Moderate: large stones.	Severe: small stones.	Slight	Moderate: large stones.
56C Monadnock	Moderate: slope, large stones.	Moderate: slope, large stones.	Severe: slope, small stones.	Slight	Moderate: large stones, slope.
56D Monadnock	Severe: slope.	Severe: slope.	Severe: slope, small stones.	Moderate: slope.	Severe: slope.
56E Monadnock	Severe: slope.	Severe: slope.	Severe: slope, small stones.	Severe: slope.	Severe: slope.
60B Houghtonville	Severe: fragile.	Severe: fragile.	Severe: fragile.	Severe: erodes easily, fragile.	Moderate: small stones.
60C Houghtonville	Severe: fragile.	Severe: fragile.	Severe: slope, fragile.	Severe: erodes easily, fragile.	Moderate: small stones, slope.
60D Houghtonville	Severe: slope, fragile.	Severe: slope, fragile.	Severe: slope, fragile.	Severe: erodes easily, fragile.	Severe: slope.
61B Houghtonville	Severe: large stones, fragile.	Severe: large stones, fragile.	Severe: large stones, fragile.	Severe: erodes easily, fragile.	Severe: large stones.

See footnote at end of table.

TABLE 9.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
61C------------------- Houghtonville	Severe: large stones, fragile.	Severe: large stones, fragile.	Severe: large stones, slope, fragile.	Severe: erodes easily, fragile.	Severe: large stones.
61D------------------- Houghtonville	Severe: slope, large stones, fragile.	Severe: slope, large stones, fragile.	Severe: large stones, slope, fragile.	Severe: erodes easily, fragile.	Severe: large stones, slope.
61E------------------- Houghtonville	Severe: slope, large stones, fragile.	Severe: slope, large stones, fragile.	Severe: large stones, slope, fragile.	Severe: slope, erodes easily, fragile.	Severe: large stones, slope.
62-------------------- Markey	Severe: ponding, excess humus.	Severe: ponding, excess humus.	Severe: excess humus, ponding.	Severe: ponding, excess humus.	Severe: ponding, excess humus.
63C*: Berkshire------------	Moderate: slope, large stones.	Moderate: slope, large stones.	Severe: slope, large stones.	Slight----------	Moderate: slope, large stones.
63C*: Tunbridge------------	Moderate: slope, small stones.	Moderate: slope, small stones.	Severe: large stones, slope, small stones.	Slight----------	Moderate: small stones, large stones, droughty.
63D*: Berkshire------------	Severe: slope.	Severe: slope.	Severe: slope, large stones.	Moderate: slope.	Severe: slope.
Tunbridge------------	Severe: slope.	Severe: slope.	Severe: large stones, slope, small stones.	Moderate: slope.	Moderate: small stones, large stones, droughty.
63E*: Berkshire------------	Severe: slope.	Severe: slope.	Severe: slope, large stones.	Severe: slope.	Severe: slope.
Tunbridge------------	Severe: slope.	Severe: slope.	Severe: large stones, slope, small stones.	Severe: slope.	Moderate: small stones, large stones, droughty.
64. Udifluvents					
65C*: Hogback--------------	Severe: large stones, depth to rock, fragile.	Severe: large stones, depth to rock, fragile.	Severe: large stones, slope, depth to rock.	Severe: erodes easily, fragile.	Severe: large stones, thin layer.
Rawsonville----------	Severe: large stones, fragile.	Severe: large stones, fragile.	Severe: large stones, slope, fragile.	Severe: erodes easily, fragile.	Severe: large stones.

See footnote at end of table.

TABLE 9.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
65D*:					
Hogback	Severe: slope, large stones, depth to rock.	Severe: slope, large stones, depth to rock.	Severe: large stones, slope, depth to rock.	Severe: erodes easily, fragile.	Severe: large stones, slope, thin layer.
Rawsonville	Severe: slope, large stones, fragile.	Severe: slope, large stones, fragile.	Severe: large stones, slope, fragile.	Severe: erodes easily, fragile.	Severe: large stones, slope.
65E*:					
Hogback	Severe: slope, large stones, depth to rock.	Severe: slope, large stones, depth to rock.	Severe: large stones, slope, depth to rock.	Severe: slope, erodes easily, fragile.	Severe: large stones, slope, thin layer.
Rawsonville	Severe: slope, large stones, fragile.	Severe: slope, large stones, fragile.	Severe: large stones, slope, fragile.	Severe: slope, erodes easily, fragile.	Severe: large stones, slope.
66B*:					
Houghtonville	Severe: fragile.	Severe: fragile.	Severe: large stones, fragile.	Severe: erodes easily, fragile.	Moderate: small stones, large stones.
Rawsonville	Severe: fragile.	Severe: fragile.	Severe: large stones, fragile.	Severe: erodes easily, fragile.	Moderate: large stones, thin layer.
66C*:					
Houghtonville	Severe: fragile.	Severe: fragile.	Severe: large stones, slope, fragile.	Severe: erodes easily, fragile.	Moderate: small stones, large stones.
Rawsonville	Severe: fragile.	Severe: fragile.	Severe: large stones, slope, fragile.	Severe: erodes easily, fragile.	Moderate: large stones, slope.
67B*:					
Berkshire	Slight	Slight	Moderate: slope, small stones.	Slight	Slight.
Tunbridge	Moderate: small stones.	Moderate: small stones.	Severe: small stones.	Slight	Moderate: small stones, droughty.
67C*:					
Berkshire	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight	Moderate: slope.
Tunbridge	Moderate: slope, small stones.	Moderate: slope, small stones.	Severe: slope, small stones.	Slight	Moderate: small stones, droughty, slope.

See footnote at end of table.

TABLE 9.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
68D*:					
Taconic	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: slope, small stones, depth to rock.	Moderate: slope.	Severe: droughty, slope, thin layer.
Hubbardton	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: slope, small stones.	Severe: large stones.	Severe: large stones, slope, thin layer.
Rock outcrop.					
68E*:					
Taconic	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: slope, small stones, depth to rock.	Severe: slope.	Severe: droughty, slope, thin layer.
Hubbardton	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: slope, small stones.	Severe: large stones, slope.	Severe: large stones, slope, thin layer.
68E*: Rock outcrop.					
69C*:					
Macomber	Moderate: slope, large stones.	Moderate: slope, large stones.	Severe: large stones, slope, small stones.	Moderate: large stones.	Severe: droughty.
Taconic	Severe: depth to rock.	Severe: depth to rock.	Severe: large stones, slope, small stones.	Moderate: large stones.	Severe: large stones, thin layer.
69D*:					
Macomber	Severe: slope.	Severe: slope.	Severe: large stones, slope, small stones.	Moderate: large stones, slope.	Severe: droughty, slope.
Taconic	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: large stones, slope, small stones.	Moderate: large stones, slope.	Severe: large stones, slope, thin layer.
69E*:					
Macomber	Severe: slope.	Severe: slope.	Severe: large stones, slope, small stones.	Severe: slope.	Severe: droughty, slope.
Taconic	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: large stones, slope, small stones.	Severe: slope.	Severe: large stones, slope, thin layer.

See footnote at end of table.

TABLE 9.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
70C*:					
Dummerston	Moderate: slope.	Moderate: slope.	Severe: large stones, slope.	Moderate: large stones.	Severe: large stones.
Macomber	Moderate: slope, large stones.	Moderate: slope, large stones.	Severe: large stones, slope, small stones.	Moderate: large stones.	Severe: droughty.
70D*:					
Dummerston	Severe: slope.	Severe: slope.	Severe: large stones, slope.	Moderate: large stones.	Severe: large stones, slope.
70D*:					
Macomber	Severe: slope.	Severe: slope.	Severe: large stones, slope, small stones.	Moderate: large stones, slope.	Severe: droughty, slope.
70E*:					
Dummerston	Severe: slope.	Severe: slope.	Severe: large stones, slope.	Moderate: large stones.	Severe: large stones, slope.
70E*:					
Macomber	Severe: slope.	Severe: slope.	Severe: large stones, slope, small stones.	Severe: slope.	Severe: droughty, slope.
71B Dummerston	Slight	Slight	Moderate: slope, small stones.	Slight	Moderate: droughty.
71C Dummerston	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight	Moderate: droughty, slope.
71D Dummerston	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.
72C Dummerston	Moderate: slope.	Moderate: slope.	Severe: large stones, slope.	Moderate: large stones.	Severe: large stones.
72D, 72E Dummerston	Severe: slope.	Severe: slope.	Severe: large stones, slope.	Moderate: large stones.	Severe: large stones, slope.
73B Fullam	Moderate: wetness.	Moderate: wetness.	Moderate: slope, small stones.	Moderate: wetness.	Moderate: wetness.
73C Fullam	Moderate: slope, wetness.	Moderate: slope, wetness.	Severe: slope.	Moderate: wetness.	Moderate: wetness, slope.
73D Fullam	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: wetness, slope.	Severe: slope.

See footnote at end of table.

TABLE 9.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
74B Fullam	Moderate: wetness, percs slowly.	Moderate: wetness, percs slowly.	Severe: large stones.	Moderate: large stones, wetness.	Severe: large stones.
74C Fullam	Moderate: slope, wetness, percs slowly.	Moderate: slope, wetness, percs slowly.	Severe: large stones, slope.	Moderate: large stones, wetness.	Severe: large stones.
74D, 74E Fullam	Severe: slope.	Severe: slope.	Severe: large stones, slope.	Moderate: large stones, wetness.	Severe: large stones, slope.
75B Brayton	Severe: wetness.	Severe: wetness.	Severe: large stones, wetness.	Severe: wetness.	Severe: large stones, wetness.
76B*: Dummerston	Slight	Slight	Moderate: slope, small stones.	Slight	Moderate: droughty.
76B*: Macomber	Slight	Slight	Moderate: slope, small stones.	Slight	Moderate: small stones, droughty.
76C*: Dummerston	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight	Moderate: droughty, slope.
Macomber	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight	Moderate: small stones, droughty, slope.

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 10.--WILDLIFE HABITAT

(See text for definitions of "good," "fair," "poor," and "very poor." Absence of an entry indicates that the soil was not rated)

Soil name and map symbol	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
1A, 1B------------- Unadilla	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
1C----------------- Unadilla	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
1D----------------- Unadilla	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
1E. Udorthents										
2A----------------- Belgrade	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
3B*, 3C*:										
Quonset-----------	Poor	Poor	Poor	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
Warwick-----------	Fair	Fair	Fair	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
3D*:										
Quonset-----------	Poor	Poor	Poor	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
Warwick-----------	Poor	Fair	Fair	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
3E*:										
Quonset-----------	Very poor.	Poor	Poor	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
Warwick-----------	Very poor.	Poor	Fair	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
5B, 5C, 5D--------- Windsor	Poor	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
5E----------------- Windsor	Very poor.	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
9B----------------- Deerfield	Poor	Fair	Fair	Poor	Poor	Poor	Very poor.	Fair	Poor	Very poor.
10A---------------- Agawam	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
10B---------------- Agawam	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
11B*:										
Berkshire---------	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.

See footnote at end of table.

TABLE 10.--WILDLIFE HABITAT--Continued

Soil name and map symbol	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herba-ceous plants	Hardwood trees	Conif-erous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
11B*:										
Monadnock	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
11C*:										
Berkshire	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Monadnock	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
11D*:										
Berkshire	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Monadnock	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
12C*, 12D*, 12E*:										
Stratton	Very poor.	Poor	Fair	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
Glebe	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
16B, 16C, 16D Adams	Poor	Fair	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
16E Adams	Very poor.	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
17B Worden	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
17C Worden	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
18B Worden	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
18C Worden	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
18D Worden	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
20B*, 20C*, 20D*, 20E*:										
Tunbridge	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
Lyman	Very poor.	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
21B Marlow	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
21C Marlow	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.

See footnote at end of table.

TABLE 10.--WILDLIFE HABITAT--Continued

Soil name and map symbol	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
21D: Marlow	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
22B: Marlow	Poor	Fair	Good	Good	Good	Poor	Very poor.	Fair	Good	Very poor.
22C, 22D: Marlow	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
22E: Marlow	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
23: Ondawa	Good	Fair	Fair	Good	Good	Poor	Very poor.	Good	Good	Very poor.
24: Podunk	Good	Fair	Fair	Good	Good	Poor	Poor	Good	Good	Poor.
25B: Westbury	Fair	Fair	Fair	Fair	Fair	Poor	Very poor.	Fair	Fair	Very poor.
25C: Westbury	Fair	Fair	Fair	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
26B: Westbury	Very poor.	Poor	Fair	Fair	Fair	Poor	Very poor.	Poor	Fair	Very poor.
26C: Westbury	Very poor.	Poor	Fair	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
26D. Westbury										
29: Walpole	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
31B: Wilmington	Very poor.	Very poor.	Fair	Fair	Fair	Poor	Very poor.	Fair	Fair	Very poor.
33: Rumney	Poor	Fair	Fair	Fair	Fair	Good	Fair	Fair	Fair	Fair.
34C*, 34D*, 34E*:										
Lyman	Very poor.	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
Rock outcrop.										
37: Hadley	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
39: Winooski	Good	Fair	Fair	Good	Good	Poor	Poor	Good	Good	Poor.
40: Limerick	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
41D*:										
Londonderry	Very poor.	Very poor.	Poor	Poor	Poor	Very poor.	Very poor.	Very poor.	Poor	Very poor.

See footnote at end of table.

TABLE 10.--WILDLIFE HABITAT--Continued

Soil name and map symbol	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hardwood trees	Conif- erous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
41D*:										
Stratton	Poor	Poor	Fair	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
41E*:										
Londonderry	Very poor.	Very poor.	Poor	Poor	Poor	Very poor.	Very poor.	Very poor.	Poor	Very poor.
Stratton	Very poor.	Very poor.	Fair	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
43B Mundal	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
43C Mundal	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
43D Mundal	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
44B, 44C, 44D, 44E Mundal	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
46B*:										
Berkshire	Very poor.	Poor	Good	Good	Good	Poor	Very poor.	Poor	Good	Very poor.
Monadnock	Very poor.	Poor	Good	Good	Good	Poor	Very poor.	Poor	Good	Very poor.
46C*, 46D*, 46E*:										
Berkshire	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
Monadnock	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
47 Lupton	Very poor.	Poor	Poor	Poor	Poor	Good	Good	Poor	Poor	Good.
48B*, 48C*, 48D*, 48E*:										
Rawsonville	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
Hogback	Very poor.	Poor	Fair	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
49B*, 49C*, 49D*, 49E*:										
Houghtonville	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
Rawsonville	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
50B, 50C, 50D Colton	Poor	Fair	Fair	Poor	Poor	Very poor.	Very poor.	Fair	Poor	Very poor.

See footnote at end of table.

TABLE 10.--WILDLIFE HABITAT--Continued

Soil name and map symbol	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
50E--- Colton	Very poor.	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
52A, 52B--- Sheepscot	Fair	Good	Good	Fair	Fair	Poor	Very poor.	Good	Fair	Very poor.
56B--- Monadnock	Very poor.	Poor	Good	Good	Good	Poor	Very poor.	Poor	Good	Very poor.
56C, 56D, 56E--- Monadnock	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
60B--- Houghtonville	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
60C--- Houghtonville	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
60D--- Houghtonville	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
61B, 61C, 61D, 61E- Houghtonville	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
62--- Markey	Poor	Poor	Poor	Poor	Poor	Good	Good	Poor	Poor	Good.
63C*, 63D*, 63E*:										
Berkshire---	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
Tunbridge---	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
64. Udifluvents										
65C*, 65D*, 65E*:										
Hogback---	Very poor.	Poor	Fair	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
Rawsonville---	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
66B*, 66C*:										
Houghtonville---	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Rawsonville---	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
67B*:										
Berkshire---	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Tunbridge---	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.

See footnote at end of table.

TABLE 10.--WILDLIFE HABITAT--Continued

Soil name and map symbol	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
67C*:										
Berkshire	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Tunbridge	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
68D*:										
Taconic	Poor	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
Hubbardton	Very poor.	Very poor.	Poor	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.
Rock outcrop.										
68E*:										
Taconic	Very poor.	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
Hubbardton	Very poor.	Very poor.	Poor	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.
Rock outcrop.										
69C*, 69D*, 69E*:										
Macomber	Very poor.	Very poor.	Fair	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
Taconic	Very poor.	Very poor.	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Fair	Very poor.
70C*, 70D*, 70E*:										
Dummerston	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Macomber	Very poor.	Very poor.	Fair	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
71B Dummerston	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
71C Dummerston	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
71D Dummerston	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
72C, 72D, 72E Dummerston	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
73B Fullam	Good	Good	Good	Fair	Fair	Poor	Very poor.	Good	Fair	Very poor.
73C Fullam	Fair	Good	Good	Fair	Fair	Very poor.	Very poor.	Good	Fair	Very poor.
73D Fullam	Poor	Fair	Good	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.

See footnote at end of table.

TABLE 10.--WILDLIFE HABITAT--Continued

Soil name and map symbol	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
74B, 74C, 74D, 74E-Fullam	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
75B-Brayton	Very poor.	Very poor.	Fair	Fair	Fair	Poor	Very poor.	Fair	Fair	Very poor.
76B*:										
Dummerston	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Macomber	Good	Good	Good	Fair	Fair	Poor	Very poor.	Good	Fair	Very poor.
76C*:										
Dummerston	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Macomber	Fair	Good	Good	Fair	Fair	Very poor.	Very poor.	Good	Fair	Very poor.

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 11.--BUILDING SITE DEVELOPMENT

(Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "moderate," and "severe." Absence of an entry indicates that the soil was not rated. The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation)

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
1A Unadilla	Severe: cutbanks cave.	Slight	Slight	Slight	Severe: frost action.	Slight.
1B Unadilla	Severe: cutbanks cave.	Slight	Slight	Moderate: slope.	Severe: frost action.	Slight.
1C Unadilla	Severe: cutbanks cave.	Moderate: slope.	Moderate: slope.	Severe: slope.	Severe: frost action.	Moderate: slope.
1D Unadilla	Severe: cutbanks cave, slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope, frost action.	Severe: slope.
1E. Udorthents						
2A Belgrade	Severe: wetness, cutbanks cave.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Severe: frost action.	Moderate: wetness.
3B*:						
Quonset	Severe: cutbanks cave.	Slight	Slight	Moderate: slope.	Slight	Severe: droughty.
Warwick	Severe: cutbanks cave.	Slight	Slight	Moderate: slope.	Slight	Severe: small stones.
3C*:						
Quonset	Severe: cutbanks cave.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Severe: droughty.
Warwick	Severe: cutbanks cave.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Severe: small stones.
3D*, 3E*:						
Quonset	Severe: cutbanks cave, slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: droughty, slope.
Warwick	Severe: slope, cutbanks cave.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope, small stones.
5B Windsor	Severe: cutbanks cave.	Slight	Slight	Moderate: slope.	Slight	Moderate: droughty.
5C Windsor	Severe: cutbanks cave.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: slope, droughty.
5D, 5E Windsor	Severe: slope, cutbanks cave.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.

See footnote at end of table.

TABLE 11.--BUILDING SITE DEVELOPMENT--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
9B---------------- Deerfield	Severe: cutbanks cave, wetness.	Moderate: wetness.	Severe: wetness.	Moderate: slope, wetness.	Moderate: frost action, wetness.	Moderate: wetness.
10A--------------- Agawam	Severe: cutbanks cave.	Slight---------	Slight---------	Slight---------	Slight---------	Slight.
10B--------------- Agawam	Severe: cutbanks cave.	Slight---------	Slight---------	Moderate: slope.	Slight---------	Slight.
11B*:						
Berkshire--------	Slight---------	Moderate: frost action.	Slight---------	Moderate: slope.	Moderate: frost action, low strength.	Slight.
Monadnock--------	Severe: cutbanks cave.	Slight---------	Slight---------	Moderate: slope.	Slight---------	Slight.
11C*:						
Berkshire--------	Moderate: slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope, frost action, low strength.	Moderate: slope.
Monadnock--------	Severe: cutbanks cave.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: slope.
11D*:						
Berkshire--------	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Monadnock--------	Severe: cutbanks cave, slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
12C*:						
Stratton---------	Severe: depth to rock, large stones.	Severe: depth to rock, large stones.	Severe: depth to rock, large stones.	Severe: slope, depth to rock.	Severe: depth to rock, frost action.	Severe: thin layer.
Glebe------------	Severe: depth to rock.	Moderate: slope, depth to rock.	Severe: depth to rock.	Severe: slope.	Severe: frost action.	Moderate: small stones.
12D*, 12E*:						
Stratton---------	Severe: depth to rock.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope, frost action.	Severe: slope, thin layer.
Glebe------------	Severe: depth to rock, slope.	Severe: slope.	Severe: depth to rock, slope.	Severe: slope.	Severe: slope, frost action.	Severe: slope.
16B--------------- Adams	Severe: cutbanks cave.	Slight---------	Slight---------	Moderate: slope.	Slight---------	Severe: droughty.
16C--------------- Adams	Severe: cutbanks cave.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Severe: droughty.

See footnote at end of table.

TABLE 11.--BUILDING SITE DEVELOPMENT--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
16D, 16E---------- Adams	Severe: slope, cutbanks cave.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope, droughty.
17B--------------- Worden	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: frost action.	Moderate: wetness, droughty.
17C--------------- Worden	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness, slope.	Severe: frost action.	Moderate: wetness, droughty, slope.
18B--------------- Worden	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: frost action.	Severe: large stones.
18C--------------- Worden	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness, slope.	Severe: frost action.	Moderate: large stones, wetness, slope.
18D--------------- Worden	Severe: wetness, slope.	Severe: wetness, slope.	Severe: wetness, slope.	Severe: wetness, slope.	Severe: slope, frost action.	Severe: large stones, slope.
20B*:						
Tunbridge---------	Severe: depth to rock.	Moderate: depth to rock.	Severe: depth to rock.	Moderate: slope, depth to rock.	Moderate: depth to rock, frost action.	Moderate: small stones, large stones, droughty.
Lyman-------------	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: thin layer, droughty.
20C*:						
Tunbridge---------	Severe: depth to rock.	Moderate: slope, depth to rock.	Severe: depth to rock.	Severe: slope.	Moderate: depth to rock, slope, frost action.	Moderate: small stones, large stones, droughty.
Lyman-------------	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: slope, depth to rock.	Severe: depth to rock.	Severe: thin layer, droughty.
20D*, 20E*:						
Tunbridge---------	Severe: depth to rock, slope.	Severe: slope.	Severe: depth to rock, slope.	Severe: slope.	Severe: slope.	Moderate: small stones, large stones, droughty.
Lyman-------------	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: slope, thin layer, droughty.
21B--------------- Marlow	Moderate: dense layer.	Slight---------	Moderate: wetness.	Moderate: slope.	Moderate: frost action.	Slight.

See footnote at end of table.

TABLE 11.--BUILDING SITE DEVELOPMENT--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
21C--------------- Marlow	Moderate: dense layer, slope.	Moderate: slope.	Moderate: wetness, slope.	Severe: slope.	Moderate: frost action.	Moderate: slope.
21D--------------- Marlow	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
22B--------------- Marlow	Moderate: dense layer, wetness.	Slight---------	Moderate: wetness.	Moderate: slope.	Moderate: frost action.	Moderate: large stones.
22C--------------- Marlow	Moderate: dense layer, wetness, slope.	Moderate: slope.	Moderate: wetness, slope.	Severe: slope.	Moderate: slope, frost action.	Moderate: large stones, slope.
22D, 22E---------- Marlow	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
23---------------- Ondawa	Severe: cutbanks cave.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Severe: flooding.
24---------------- Podunk	Severe: cutbanks cave, wetness.	Severe: flooding.	Severe: flooding, wetness.	Severe: flooding.	Severe: flooding, frost action.	Severe: flooding.
25B--------------- Westbury	Severe: wetness.	Severe: wetness, frost action.	Severe: wetness.	Severe: wetness, frost action.	Severe: frost action.	Moderate: wetness.
25C--------------- Westbury	Severe: wetness.	Severe: wetness, frost action.	Severe: wetness.	Severe: slope, wetness, frost action.	Severe: frost action.	Moderate: slope, wetness.
26B--------------- Westbury	Severe: wetness.	Severe: wetness, frost action.	Severe: wetness.	Severe: wetness, frost action.	Severe: wetness, frost action.	Moderate: wetness, large stones.
26C--------------- Westbury	Severe: wetness.	Severe: wetness, frost action.	Severe: wetness.	Severe: slope, wetness, frost action.	Severe: wetness, frost action.	Moderate: slope, wetness, large stones.
26D--------------- Westbury	Severe: wetness.	Severe: wetness, frost action.	Severe: wetness.	Severe: slope, wetness, frost action.	Severe: wetness, frost action.	Severe: slope, wetness, large stones.
29---------------- Walpole	Severe: cutbanks cave, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness, frost action.	Severe: wetness.
31B--------------- Wilmington	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness, frost action.	Severe: wetness, thin layer.

See footnote at end of table.

TABLE 11.--BUILDING SITE DEVELOPMENT--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
33---------------- Rumney	Severe: wetness, cutbanks cave.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness, frost action.	Severe: flooding, wetness.
34C*:						
Lyman------------	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: slope, depth to rock.	Severe: depth to rock.	Severe: thin layer, droughty.
Rock outcrop.						
34D*, 34E*:						
Lyman------------	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: slope, thin layer, droughty.
Rock outcrop.						
37---------------- Hadley	Moderate: flooding.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Severe: flooding, frost action.	Severe: flooding.
39---------------- Winooski	Severe: wetness.	Severe: flooding.	Severe: flooding, wetness.	Severe: flooding.	Severe: flooding, frost action.	Severe: flooding.
40---------------- Limerick	Severe: wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness, frost action.	Severe: flooding, wetness.
41D*, 41E*:						
Londonderry------	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: slope, thin layer.
Stratton---------	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope, frost action.	Severe: slope, thin layer.
43B--------------- Mundal	Severe: cutbanks cave, wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness, slope.	Severe: frost action.	Moderate: large stones, wetness.
43C--------------- Mundal	Severe: cutbanks cave, wetness.	Moderate: wetness, slope.	Severe: wetness.	Severe: slope.	Severe: frost action.	Moderate: large stones, wetness, slope.
43D--------------- Mundal	Severe: cutbanks cave, wetness, slope.	Severe: slope.	Severe: wetness, slope.	Severe: slope.	Severe: slope, frost action.	Severe: slope.
44B--------------- Mundal	Severe: cutbanks cave, wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness, slope.	Severe: frost action.	Severe: large stones.

See footnote at end of table.

TABLE 11.--BUILDING SITE DEVELOPMENT--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
44C: Mundal	Severe: cutbanks cave, wetness.	Moderate: wetness, slope.	Severe: wetness.	Severe: slope.	Severe: frost action.	Severe: large stones.
44D, 44E: Mundal	Severe: cutbanks cave, wetness, slope.	Severe: slope.	Severe: wetness, slope.	Severe: slope.	Severe: slope, frost action.	Severe: large stones, slope.
46B*:						
Berkshire	Slight	Slight	Slight	Moderate: slope.	Moderate: frost action, low strength.	Moderate: large stones.
Monadnock	Severe: cutbanks cave.	Slight	Slight	Moderate: slope.	Slight	Moderate: large stones.
46C*:						
Berkshire	Moderate: slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope, frost action, low strength.	Moderate: slope, large stones.
Monadnock	Severe: cutbanks cave.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: large stones, slope.
46D*, 46E*:						
Berkshire	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Monadnock	Severe: cutbanks cave, slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
47: Lupton	Severe: excess humus, ponding.	Severe: ponding, low strength.	Severe: ponding, low strength.	Severe: ponding, low strength.	Severe: ponding, frost action, subsides.	Severe: ponding, excess humus.
48B*:						
Rawsonville	Severe: depth to rock, cutbanks cave.	Moderate: depth to rock.	Severe: depth to rock.	Moderate: slope, depth to rock.	Severe: frost action.	Severe: large stones.
Hogback	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock, frost action.	Severe: large stones, thin layer.
48C*:						
Rawsonville	Severe: depth to rock, cutbanks cave.	Moderate: slope, depth to rock.	Severe: depth to rock.	Severe: slope.	Severe: frost action.	Severe: large stones.
Hogback	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: slope, depth to rock.	Severe: depth to rock, frost action.	Severe: large stones, thin layer.

See footnote at end of table.

TABLE 11.--BUILDING SITE DEVELOPMENT--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
48D*, 48E*:						
Rawsonville	Severe: depth to rock, cutbanks cave, slope.	Severe: slope.	Severe: depth to rock, slope.	Severe: slope.	Severe: slope, frost action.	Severe: large stones, slope.
Hogback	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope, frost action.	Severe: large stones, slope, thin layer.
49B*:						
Houghtonville	Slight	Slight	Slight	Moderate: slope.	Severe: frost action.	Severe: large stones.
Rawsonville	Severe: depth to rock, cutbanks cave.	Moderate: depth to rock.	Severe: depth to rock.	Moderate: slope, depth to rock.	Severe: frost action.	Severe: large stones.
49C*:						
Houghtonville	Moderate: slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Severe: frost action.	Severe: large stones.
Rawsonville	Severe: depth to rock, cutbanks cave.	Moderate: slope, depth to rock.	Severe: depth to rock.	Severe: slope.	Severe: frost action.	Severe: large stones.
49D*, 49E*:						
Houghtonville	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope, frost action.	Severe: large stones, slope.
Rawsonville	Severe: depth to rock, cutbanks cave, slope.	Severe: slope.	Severe: depth to rock, slope.	Severe: slope.	Severe: slope, frost action.	Severe: large stones, slope.
50B Colton	Severe: cutbanks cave.	Slight	Slight	Moderate: slope.	Slight	Severe: droughty.
50C Colton	Severe: cutbanks cave.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Severe: droughty, slope.
50D, 50E Colton	Severe: cutbanks cave, slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: droughty, slope.
52A Sheepscot	Severe: cutbanks cave, wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.	Severe: droughty.
52B Sheepscot	Severe: cutbanks cave, wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness, slope.	Moderate: wetness.	Severe: droughty.
56B Monadnock	Severe: cutbanks cave.	Slight	Slight	Moderate: slope.	Slight	Moderate: large stones.
56C Monadnock	Severe: cutbanks cave.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: large stones, slope.

See footnote at end of table.

TABLE 11.--BUILDING SITE DEVELOPMENT--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
56D, 56E----------Monadnock	Severe: cutbanks cave, slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
60B---------------Houghtonville	Slight---------	Slight---------	Slight---------	Moderate: slope.	Severe: frost action.	Moderate: small stones.
60C---------------Houghtonville	Moderate: slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Severe: frost action.	Moderate: small stones, slope.
60D---------------Houghtonville	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope, frost action.	Severe: slope.
61B---------------Houghtonville	Slight---------	Slight---------	Slight---------	Moderate: slope.	Severe: frost action.	Severe: large stones.
61C---------------Houghtonville	Moderate: slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Severe: frost action.	Severe: large stones.
61D, 61E----------Houghtonville	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope, frost action.	Severe: large stones, slope.
62----------------Markey	Severe: cutbanks cave, excess humus, ponding.	Severe: ponding, low strength.	Severe: ponding.	Severe: ponding, low strength.	Severe: ponding, frost action, subsides.	Severe: ponding, excess humus.
63C*:						
Berkshire---------	Moderate: slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope, frost action, low strength.	Moderate: slope, large stones.
Tunbridge---------	Severe: depth to rock.	Moderate: slope, depth to rock.	Severe: depth to rock.	Severe: slope.	Moderate: depth to rock, slope, frost action.	Moderate: small stones, large stones, droughty.
63D*, 63E*:						
Berkshire---------	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Tunbridge---------	Severe: depth to rock, slope.	Severe: slope.	Severe: depth to rock, slope.	Severe: slope.	Severe: slope.	Moderate: small stones, large stones, droughty.
64. Udifluvents						
65C*:						
Hogback-----------	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: slope, depth to rock.	Severe: depth to rock, frost action.	Severe: large stones, thin layer.
Rawsonville-------	Severe: depth to rock, cutbanks cave.	Moderate: slope, depth to rock.	Severe: depth to rock.	Severe: slope.	Severe: frost action.	Severe: large stones.

See footnote at end of table.

TABLE 11.--BUILDING SITE DEVELOPMENT--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
65D*, 65E*:						
Hogback	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope, frost action.	Severe: large stones, slope, thin layer.
Rawsonville	Severe: depth to rock, cutbanks cave, slope.	Severe: slope.	Severe: depth to rock, slope.	Severe: slope.	Severe: slope, frost action.	Severe: large stones, slope.
66B*:						
Houghtonville	Slight	Slight	Slight	Moderate: slope.	Severe: frost action.	Moderate: small stones, large stones.
Rawsonville	Severe: depth to rock, cutbanks cave.	Moderate: depth to rock.	Severe: depth to rock.	Moderate: slope, depth to rock.	Severe: frost action.	Moderate: large stones, thin layer.
66C*:						
Houghtonville	Moderate: slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Severe: frost action.	Moderate: small stones, large stones.
Rawsonville	Severe: depth to rock, cutbanks cave.	Moderate: slope, depth to rock.	Severe: depth to rock.	Severe: slope.	Severe: frost action.	Moderate: large stones, slope.
67B*:						
Berkshire	Slight	Moderate: frost action.	Slight	Moderate: slope.	Moderate: frost action, low strength.	Slight.
Tunbridge	Severe: depth to rock.	Moderate: depth to rock.	Severe: depth to rock.	Moderate: slope, depth to rock.	Moderate: depth to rock, frost action.	Moderate: small stones, droughty.
67C*:						
Berkshire	Moderate: slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope, frost action, low strength.	Moderate: slope.
Tunbridge	Severe: depth to rock.	Moderate: slope, depth to rock.	Severe: depth to rock.	Severe: slope.	Moderate: depth to rock, slope, frost action.	Moderate: small stones, droughty, slope.
68D*, 68E*:						
Taconic	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: droughty, slope, thin layer.
Hubbardton	Severe: depth to rock.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: large stones, slope, thin layer.
Rock outcrop.						

See footnote at end of table.

TABLE 11.--BUILDING SITE DEVELOPMENT--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
69C*:						
Macomber	Severe: depth to rock.	Moderate: slope, depth to rock.	Severe: depth to rock.	Severe: slope.	Moderate: depth to rock, slope, frost action.	Severe: droughty.
Taconic	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: slope, depth to rock.	Severe: depth to rock.	Severe: large stones, thin layer.
69D*, 69E*:						
Macomber	Severe: depth to rock, slope.	Severe: slope.	Severe: depth to rock, slope.	Severe: slope.	Severe: slope.	Severe: droughty, slope.
Taconic	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: large stones, slope, thin layer.
70C*:						
Dummerston	Moderate: slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope, frost action.	Severe: large stones.
Macomber	Severe: depth to rock.	Moderate: slope, depth to rock.	Severe: depth to rock.	Severe: slope.	Moderate: depth to rock, slope, frost action.	Severe: droughty.
70D*, 70E*:						
Dummerston	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: large stones, slope.
Macomber	Severe: depth to rock, slope.	Severe: slope.	Severe: depth to rock, slope.	Severe: slope.	Severe: slope.	Severe: droughty, slope.
71B Dummerston	Slight	Slight	Slight	Moderate: slope.	Moderate: frost action.	Moderate: droughty.
71C Dummerston	Moderate: slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope, frost action.	Moderate: droughty, slope.
71D Dummerston	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
72C Dummerston	Moderate: slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope, frost action.	Severe: large stones.
72D, 72E Dummerston	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: large stones, slope.
73B Fullam	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness, slope.	Moderate: wetness, frost action.	Moderate: wetness.

See footnote at end of table.

TABLE 11.--BUILDING SITE DEVELOPMENT--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
73C---------------- Fullam	Severe: wetness.	Moderate: wetness, slope.	Severe: wetness.	Severe: slope.	Moderate: wetness, slope, frost action.	Moderate: wetness, slope.
73D---------------- Fullam	Severe: wetness, slope.	Severe: slope.	Severe: wetness, slope.	Severe: slope.	Severe: slope.	Severe: slope.
74B---------------- Fullam	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness, slope.	Moderate: wetness, frost action.	Severe: large stones.
74C---------------- Fullam	Severe: wetness.	Moderate: wetness, slope.	Severe: wetness.	Severe: slope.	Moderate: wetness, slope, frost action.	Severe: large stones.
74D, 74E----------- Fullam	Severe: wetness, slope.	Severe: slope.	Severe: wetness, slope.	Severe: slope.	Severe: slope.	Severe: large stones, slope.
75B---------------- Brayton	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness, frost action.	Severe: large stones, wetness.
76B*:						
Dummerston--------	Slight----------	Slight----------	Slight----------	Moderate: slope.	Moderate: frost action.	Moderate: droughty.
Macomber----------	Severe: depth to rock.	Moderate: depth to rock.	Severe: depth to rock.	Moderate: slope, depth to rock.	Moderate: depth to rock, frost action.	Moderate: small stones, droughty.
76C*:						
Dummerston--------	Moderate: slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope, frost action.	Moderate: droughty, slope.
Macomber----------	Severe: depth to rock.	Moderate: slope, depth to rock.	Severe: depth to rock.	Severe: slope.	Moderate: depth to rock, slope, frost action.	Moderate: small stones, droughty, slope.

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 12.--SANITARY FACILITIES

(Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "good," and other terms. Absence of an entry indicates that the soil was not rated. The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation)

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
1A, 1B: Unadilla	Slight	Severe: seepage.	Severe: seepage.	Slight	Fair: thin layer.
1C: Unadilla	Moderate: slope.	Severe: slope, seepage.	Severe: seepage.	Moderate: slope.	Fair: slope, thin layer.
1D: Unadilla	Severe: slope.	Severe: slope, seepage.	Severe: seepage, slope.	Severe: slope.	Poor: slope.
1E. Udorthents					
2A: Belgrade	Severe: wetness, percs slowly.	Severe: wetness, seepage.	Severe: wetness, seepage.	Severe: wetness, seepage.	Fair: wetness.
3B*:					
Quonset	Severe: poor filter.	Severe: seepage.	Severe: seepage, too sandy.	Severe: seepage.	Poor: seepage, too sandy, small stones.
Warwick	Severe: poor filter.	Severe: seepage.	Severe: seepage.	Severe: seepage.	Poor: seepage, small stones.
3C*:					
Quonset	Severe: poor filter.	Severe: slope, seepage.	Severe: seepage, too sandy.	Severe: seepage.	Poor: seepage, too sandy, small stones.
Warwick	Severe: poor filter.	Severe: slope, seepage.	Severe: seepage.	Severe: seepage.	Poor: seepage, small stones.
3D*, 3E*:					
Quonset	Severe: poor filter, slope.	Severe: slope, seepage.	Severe: seepage, slope, too sandy.	Severe: seepage, slope.	Poor: seepage, too sandy, slope.
Warwick	Severe: slope, poor filter.	Severe: slope, seepage.	Severe: slope, seepage.	Severe: slope, seepage.	Poor: seepage, slope, small stones.
5B: Windsor	Severe: poor filter.	Severe: seepage.	Severe: seepage, too sandy.	Poor: too sandy, seepage.	Poor: too sandy, seepage.

See footnote at end of table.

TABLE 12.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
5C------------------ Windsor	Severe: poor filter.	Severe: slope, seepage.	Severe: seepage, too sandy.	Poor: too sandy, seepage.	Poor: too sandy, seepage.
5D, 5E-------------- Windsor	Severe: slope, poor filter.	Severe: slope, seepage.	Severe: slope, seepage, too sandy.	Poor: slope, too sandy, seepage.	Poor: slope, too sandy, seepage.
9B------------------ Deerfield	Severe: wetness, poor filter.	Severe: seepage, wetness.	Severe: seepage, wetness, too sandy.	Severe: seepage, wetness.	Poor: too sandy, seepage.
10A, 10B------------ Agawam	Severe: poor filter.	Severe: seepage.	Severe: seepage, too sandy.	Severe: seepage.	Poor: seepage, too sandy.
11B*:					
Berkshire----------	Slight-----------	Severe: seepage.	Severe: seepage.	Severe: seepage.	Fair: small stones.
Monadnock----------	Slight-----------	Severe: seepage.	Severe: seepage.	Severe: seepage.	Poor: seepage.
11C*:					
Berkshire----------	Moderate: slope.	Severe: slope, seepage.	Severe: seepage.	Severe: seepage.	Fair: slope, small stones.
Monadnock----------	Moderate: slope.	Severe: seepage, slope.	Severe: seepage.	Severe: seepage.	Poor: seepage.
11D*:					
Berkshire----------	Severe: slope.	Severe: slope, seepage.	Severe: seepage.	Severe: slope, seepage.	Poor: slope.
Monadnock----------	Severe: slope.	Severe: seepage, slope.	Severe: seepage, slope.	Severe: seepage, slope.	Poor: seepage, slope.
12C*:					
Stratton-----------	Severe: depth to rock, large stones.	Severe: seepage, depth to rock, slope.	Severe: depth to rock, seepage.	Severe: depth to rock, seepage.	Poor: area reclaim, seepage, small stones.
Glebe--------------	Severe: depth to rock.	Severe: seepage, depth to rock, slope.	Severe: depth to rock, seepage.	Severe: depth to rock, seepage.	Poor: area reclaim.
12D*, 12E*:					
Stratton-----------	Severe: depth to rock, slope.	Severe: seepage, depth to rock, slope.	Severe: depth to rock, seepage, slope.	Severe: depth to rock, seepage, slope.	Poor: area reclaim, seepage, small stones.

See footnote at end of table.

TABLE 12.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
12D*, 12E*:					
Glebe	Severe: depth to rock, slope.	Severe: seepage, depth to rock, slope.	Severe: depth to rock, seepage, slope.	Severe: depth to rock, seepage, slope.	Poor: area reclaim, slope.
16B Adams	Severe: poor filter.	Severe: seepage.	Severe: seepage, too sandy.	Severe: seepage.	Poor: seepage, too sandy.
16C Adams	Severe: poor filter.	Severe: slope, seepage.	Severe: seepage, too sandy.	Severe: seepage.	Poor: seepage, too sandy.
16D, 16E Adams	Severe: poor filter, slope.	Severe: slope, seepage.	Severe: slope, seepage, too sandy.	Severe: slope, seepage.	Poor: seepage, too sandy, slope.
17B Worden	Severe: wetness, percs slowly.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Poor: wetness.
17C Worden	Severe: wetness, percs slowly.	Severe: slope, wetness.	Severe: wetness.	Severe: wetness.	Poor: wetness.
18B Worden	Severe: wetness, percs slowly.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Poor: wetness.
18C Worden	Severe: wetness, percs slowly.	Severe: slope, wetness.	Severe: wetness.	Severe: wetness.	Poor: wetness.
18D Worden	Severe: wetness, percs slowly, slope.	Severe: slope, wetness.	Severe: wetness, slope.	Severe: wetness, slope.	Poor: slope, wetness.
20B*:					
Tunbridge	Severe: depth to rock.	Severe: seepage, depth to rock.	Severe: depth to rock, seepage.	Severe: depth to rock, seepage.	Poor: area reclaim.
Lyman	Severe: depth to rock.	Severe: depth to rock, seepage.	Severe: depth to rock, seepage.	Severe: seepage, depth to rock.	Poor: area reclaim, small stones, thin layer.
20C*:					
Tunbridge	Severe: depth to rock.	Severe: seepage, depth to rock, slope.	Severe: depth to rock, seepage.	Severe: depth to rock, seepage.	Poor: area reclaim.
Lyman	Severe: depth to rock.	Severe: slope, depth to rock, seepage.	Severe: depth to rock, seepage.	Severe: seepage, depth to rock.	Poor: area reclaim, small stones, thin layer.

See footnote at end of table.

TABLE 12.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
20D*, 20E*:					
Tunbridge	Severe: depth to rock, slope.	Severe: seepage, depth to rock, slope.	Severe: depth to rock, seepage, slope.	Severe: depth to rock, seepage, slope.	Poor: area reclaim, slope.
Lyman	Severe: slope, depth to rock.	Severe: slope, depth to rock, seepage.	Severe: slope, depth to rock, seepage.	Severe: slope, seepage, depth to rock.	Poor: slope, thin layer, small stones.
21B Marlow	Severe: percs slowly.	Moderate: seepage, slope.	Slight	Slight	Fair: small stones, wetness.
21C Marlow	Severe: percs slowly.	Severe: slope.	Moderate: slope.	Moderate: wetness, slope.	Fair: small stones, slope, wetness.
21D Marlow	Severe: percs slowly, slope.	Severe: slope.	Severe: slope.	Severe: slope.	Poor: slope.
22B Marlow	Severe: percs slowly.	Moderate: seepage, slope.	Slight	Slight	Fair: small stones.
22C Marlow	Severe: percs slowly.	Severe: slope.	Moderate: slope.	Moderate: slope.	Fair: small stones, slope.
22D, 22E Marlow	Severe: percs slowly, slope.	Severe: slope.	Severe: slope.	Severe: slope.	Poor: slope.
23 Ondawa	Severe: flooding, poor filter.	Severe: flooding, seepage.	Severe: flooding, seepage, too sandy.	Severe: flooding, seepage.	Poor: seepage, too sandy.
24 Podunk	Severe: flooding, wetness, poor filter.	Severe: flooding, wetness, seepage.	Severe: flooding, wetness, seepage.	Severe: flooding, wetness, seepage.	Poor: seepage, too sandy.
25B Westbury	Severe: wetness, percs slowly.	Moderate: slope.	Severe: wetness.	Severe: wetness.	Fair: small stones.
25C Westbury	Severe: wetness, percs slowly.	Severe: slope.	Severe: wetness.	Severe: wetness.	Fair: small stones.
26B Westbury	Severe: wetness, percs slowly.	Moderate: slope.	Severe: wetness.	Severe: wetness.	Fair: large stones.
26C, 26D Westbury	Severe: wetness, percs slowly.	Severe: slope.	Severe: wetness.	Severe: wetness.	Fair: large stones.

See footnote at end of table.

TABLE 12.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
29------------------ Walpole	Severe: wetness, poor filter.	Severe: seepage, wetness.	Severe: seepage, wetness, too sandy.	Severe: seepage, wetness.	Poor: seepage, too sandy, wetness.
31B----------------- Wilmington	Severe: wetness, percs slowly.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Poor: area reclaim, small stones, wetness.
33------------------ Rumney	Severe: flooding, wetness, poor filter.	Severe: flooding, wetness, seepage.	Severe: flooding, wetness, seepage.	Severe: flooding, wetness, seepage.	Poor: wetness, seepage, too sandy.
34C*:					
Lyman---------------	Severe: depth to rock.	Severe: slope, depth to rock, seepage.	Severe: depth to rock, seepage.	Severe: seepage, depth to rock.	Poor: area reclaim, small stones, thin layer.
Rock outcrop.					
34D*, 34E*:					
Lyman---------------	Severe: slope, depth to rock.	Severe: slope, depth to rock, seepage.	Severe: slope, depth to rock, seepage.	Severe: slope, seepage, depth to rock.	Poor: slope, thin layer, small stones.
Rock outcrop.					
37------------------ Hadley	Severe: flooding.	Severe: flooding, seepage.	Severe: flooding, seepage, wetness.	Severe: flooding, seepage.	Good.
39------------------ Winooski	Severe: flooding, wetness.	Severe: flooding, wetness, seepage.	Severe: flooding, wetness, seepage.	Severe: flooding, wetness, seepage.	Fair: wetness.
40------------------ Limerick	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Poor: wetness.
41D*, 41E*:					
Londonderry---------	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Poor: area reclaim, slope.
Stratton------------	Severe: depth to rock, slope.	Severe: seepage, depth to rock, slope.	Severe: depth to rock, seepage, slope.	Severe: depth to rock, seepage, slope.	Poor: area reclaim, seepage, small stones.
43B----------------- Mundal	Severe: wetness, percs slowly.	Severe: wetness.	Severe: wetness.	Moderate: wetness.	Poor: small stones.

See footnote at end of table.

TABLE 12.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
43C Mundal	Severe: wetness, percs slowly.	Severe: slope, wetness.	Severe: wetness.	Moderate: wetness, slope.	Poor: small stones.
43D Mundal	Severe: wetness, percs slowly, slope.	Severe: slope, wetness.	Severe: wetness, slope.	Severe: slope.	Poor: small stones, slope.
44B Mundal	Severe: wetness, percs slowly.	Severe: wetness.	Severe: wetness.	Moderate: wetness.	Poor: small stones.
44C Mundal	Severe: wetness, percs slowly.	Severe: slope, wetness.	Severe: wetness.	Moderate: wetness, slope.	Poor: small stones.
44D, 44E Mundal	Severe: wetness, percs slowly, slope.	Severe: slope, wetness.	Severe: wetness, slope.	Severe: slope.	Poor: small stones, slope.
46B*:					
Berkshire	Slight	Severe: seepage.	Severe: seepage.	Severe: seepage.	Fair: small stones.
Monadnock	Slight	Severe: seepage.	Severe: seepage.	Severe: seepage.	Poor: seepage.
46C*:					
Berkshire	Moderate: slope.	Severe: slope, seepage.	Severe: seepage.	Severe: seepage.	Fair: slope, small stones.
Monadnock	Moderate: slope.	Severe: seepage, slope.	Severe: seepage.	Severe: seepage.	Poor: seepage.
46D*:					
Berkshire	Severe: slope.	Severe: slope, seepage.	Severe: seepage.	Severe: slope, seepage.	Poor: slope.
Monadnock	Severe: slope.	Severe: seepage, slope.	Severe: seepage, slope.	Severe: seepage, slope.	Poor: seepage, slope.
46E*:					
Berkshire	Severe: slope.	Severe: slope, seepage.	Severe: slope, seepage.	Severe: slope, seepage.	Poor: slope.
Monadnock	Severe: slope.	Severe: seepage, slope.	Severe: seepage, slope.	Severe: seepage, slope.	Poor: seepage, slope.
47 Lupton	Severe: ponding, percs slowly.	Severe: seepage, excess humus, ponding.	Severe: ponding, excess humus.	Severe: seepage, ponding.	Poor: ponding, excess humus.

See footnote at end of table.

TABLE 12.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
48B*:					
Rawsonville	Severe: depth to rock.	Severe: seepage, depth to rock.	Severe: depth to rock, seepage.	Severe: depth to rock, seepage.	Poor: area reclaim, small stones.
Hogback	Severe: depth to rock.	Severe: seepage, depth to rock.	Severe: depth to rock, seepage.	Severe: depth to rock, seepage.	Poor: area reclaim.
48C*:					
Rawsonville	Severe: depth to rock.	Severe: seepage, depth to rock, slope.	Severe: depth to rock, seepage.	Severe: depth to rock, seepage.	Poor: area reclaim, small stones.
Hogback	Severe: depth to rock.	Severe: seepage, depth to rock, slope.	Severe: depth to rock, seepage.	Severe: depth to rock, seepage.	Poor: area reclaim.
48D*, 48E*:					
Rawsonville	Severe: depth to rock, slope.	Severe: seepage, depth to rock, slope.	Severe: depth to rock, seepage, slope.	Severe: depth to rock, seepage, slope.	Poor: area reclaim, small stones, slope.
Hogback	Severe: depth to rock, slope.	Severe: seepage, depth to rock, slope.	Severe: depth to rock, seepage, slope.	Severe: depth to rock, seepage, slope.	Poor: area reclaim, slope.
49B*:					
Houghtonville	Slight	Severe: seepage.	Severe: seepage.	Severe: seepage.	Fair: small stones.
Rawsonville	Severe: depth to rock.	Severe: seepage, depth to rock.	Severe: depth to rock, seepage.	Severe: depth to rock, seepage.	Poor: area reclaim, small stones.
49C*:					
Houghtonville	Moderate: slope.	Severe: seepage, slope.	Severe: seepage.	Severe: seepage.	Fair: small stones, slope.
Rawsonville	Severe: depth to rock.	Severe: seepage, depth to rock, slope.	Severe: depth to rock, seepage.	Severe: depth to rock, seepage.	Poor: area reclaim, small stones.
49D*, 49E*:					
Houghtonville	Severe: slope.	Severe: seepage, slope.	Severe: seepage, slope.	Severe: seepage, slope.	Poor: slope.
Rawsonville	Severe: depth to rock, slope.	Severe: seepage, depth to rock, slope.	Severe: depth to rock, seepage, slope.	Severe: depth to rock, seepage, slope.	Poor: area reclaim, small stones, slope.

See footnote at end of table.

TABLE 12.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
50B----------------- Colton	Severe: poor filter.	Severe: seepage.	Severe: seepage, too sandy.	Severe: seepage.	Poor: seepage, too sandy, small stones.
50C----------------- Colton	Severe: poor filter.	Severe: slope, seepage.	Severe: seepage, too sandy.	Severe: seepage.	Poor: seepage, too sandy, small stones.
50D, 50E------------ Colton	Severe: poor filter, slope.	Severe: slope, seepage.	Severe: slope, seepage, too sandy.	Severe: slope, seepage.	Poor: seepage, too sandy, small stones.
52A, 52B------------ Sheepscot	Severe: wetness, poor filter.	Severe: seepage, wetness.	Severe: seepage, wetness, too sandy.	Severe: seepage, wetness.	Poor: seepage, too sandy, small stones.
56B----------------- Monadnock	Slight-----------	Severe: seepage.	Severe: seepage.	Severe: seepage.	Poor: seepage.
56C----------------- Monadnock	Moderate: slope.	Severe: seepage, slope.	Severe: seepage.	Severe: seepage.	Poor: seepage.
56D, 56E------------ Monadnock	Severe: slope.	Severe: seepage, slope.	Severe: seepage, slope.	Severe: seepage, slope.	Poor: seepage, slope.
60B----------------- Houghtonville	Slight-----------	Severe: seepage.	Severe: seepage.	Severe: seepage.	Fair: small stones.
60C----------------- Houghtonville	Moderate: slope.	Severe: seepage, slope.	Severe: seepage.	Severe: seepage.	Fair: small stones, slope.
60D----------------- Houghtonville	Severe: slope.	Severe: seepage, slope.	Severe: seepage, slope.	Severe: seepage, slope.	Poor: slope.
61B----------------- Houghtonville	Slight-----------	Severe: seepage.	Severe: seepage.	Severe: seepage.	Fair: small stones.
61C----------------- Houghtonville	Moderate: slope.	Severe: seepage, slope.	Severe: seepage.	Severe: seepage.	Fair: small stones, slope.
61D, 61E------------ Houghtonville	Severe: slope.	Severe: seepage, slope.	Severe: seepage, slope.	Severe: seepage, slope.	Poor: slope.
62------------------ Markey	Severe: ponding, percs slowly, poor filter.	Severe: seepage, excess humus, ponding.	Severe: seepage, ponding, too sandy.	Severe: seepage, ponding.	Poor: seepage, too sandy, ponding.

See footnote at end of table.

TABLE 12.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
63C*:					
Berkshire	Moderate: slope.	Severe: slope, seepage.	Severe: seepage.	Severe: seepage.	Fair: slope, small stones.
Tunbridge	Severe: depth to rock.	Severe: seepage, depth to rock, slope.	Severe: depth to rock, seepage.	Severe: depth to rock, seepage.	Poor: area reclaim.
63D*:					
Berkshire	Severe: slope.	Severe: slope, seepage.	Severe: seepage.	Severe: slope, seepage.	Poor: slope.
Tunbridge	Severe: depth to rock, slope.	Severe: seepage, depth to rock, slope.	Severe: depth to rock, seepage, slope.	Severe: depth to rock, seepage, slope.	Poor: area reclaim, slope.
63E*:					
Berkshire	Severe: slope.	Severe: slope, seepage.	Severe: slope, seepage.	Severe: slope, seepage.	Poor: slope.
Tunbridge	Severe: depth to rock, slope.	Severe: seepage, depth to rock, slope.	Severe: depth to rock, seepage, slope.	Severe: depth to rock, seepage, slope.	Poor: area reclaim, slope.
64. Udifluvents					
65C*:					
Hogback	Severe: depth to rock.	Severe: seepage, depth to rock, slope.	Severe: depth to rock, seepage.	Severe: depth to rock, seepage.	Poor: area reclaim.
Rawsonville	Severe: depth to rock.	Severe: seepage, depth to rock, slope.	Severe: depth to rock, seepage.	Severe: depth to rock, seepage.	Poor: area reclaim, small stones.
65D*, 65E*:					
Hogback	Severe: depth to rock, slope.	Severe: seepage, depth to rock, slope.	Severe: depth to rock, seepage, slope.	Severe: depth to rock, seepage, slope.	Poor: area reclaim, slope.
Rawsonville	Severe: depth to rock, slope.	Severe: seepage, depth to rock, slope.	Severe: depth to rock, seepage, slope.	Severe: depth to rock, seepage, slope.	Poor: area reclaim, small stones, slope.
66B*:					
Houghtonville	Slight	Severe: seepage.	Severe: seepage.	Severe: seepage.	Fair: small stones.

See footnote at end of table.

TABLE 12.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
66B*:					
Rawsonville	Severe: depth to rock.	Severe: seepage, depth to rock.	Severe: depth to rock, seepage.	Severe: depth to rock, seepage.	Poor: area reclaim, small stones.
66C*:					
Houghtonville	Moderate: slope.	Severe: seepage, slope.	Severe: seepage.	Severe: seepage.	Fair: small stones, slope.
Rawsonville	Severe: depth to rock.	Severe: seepage, depth to rock, slope.	Severe: depth to rock, seepage.	Severe: depth to rock, seepage.	Poor: area reclaim, small stones.
67B*:					
Berkshire	Slight	Severe: seepage.	Severe: seepage.	Severe: seepage.	Fair: small stones.
Tunbridge	Severe: depth to rock.	Severe: seepage, depth to rock.	Severe: depth to rock, seepage.	Severe: depth to rock, seepage.	Poor: area reclaim.
67C*:					
Berkshire	Moderate: slope.	Severe: slope, seepage.	Severe: seepage.	Severe: seepage.	Fair: slope, small stones.
Tunbridge	Severe: depth to rock.	Severe: seepage, depth to rock, slope.	Severe: depth to rock, seepage.	Severe: depth to rock, seepage.	Poor: area reclaim.
68D*, 68E*:					
Taconic	Severe: depth to rock, slope.	Severe: seepage, depth to rock, slope.	Severe: depth to rock, seepage, slope.	Severe: depth to rock, seepage, slope.	Poor: area reclaim, small stones, slope.
Hubbardton	Severe: depth to rock, slope.	Severe: depth to rock, slope, large stones.	Severe: depth to rock, seepage, slope.	Severe: depth to rock, slope.	Poor: area reclaim, slope.
Rock outcrop.					
69C*:					
Macomber	Severe: depth to rock.	Severe: depth to rock, slope.	Severe: depth to rock.	Severe: depth to rock.	Poor: area reclaim, small stones.
Taconic	Severe: depth to rock.	Severe: seepage, depth to rock, slope.	Severe: depth to rock, seepage.	Severe: depth to rock, seepage.	Poor: area reclaim, small stones.
69D*, 69E*:					
Macomber	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Poor: area reclaim, small stones, slope.

See footnote at end of table.

TABLE 12.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
69D*, 69E*:					
Taconic	Severe: depth to rock, slope.	Severe: seepage, depth to rock, slope.	Severe: depth to rock, seepage, slope.	Severe: depth to rock, seepage, slope.	Poor: area reclaim, small stones, slope.
70C*:					
Dummerston	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: slope.	Poor: small stones.
Macomber	Severe: depth to rock.	Severe: depth to rock, slope.	Severe: depth to rock.	Severe: depth to rock.	Poor: area reclaim, small stones.
70D*, 70E*:					
Dummerston	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Poor: small stones, slope.
Macomber	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Poor: area reclaim, small stones, slope.
71B Dummerston	Slight	Moderate: seepage, slope.	Slight	Slight	Poor: small stones.
71C Dummerston	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: slope.	Poor: small stones.
71D Dummerston	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Poor: small stones, slope.
72C Dummerston	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: slope.	Poor: small stones.
72D, 72E Dummerston	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Poor: small stones, slope.
73B Fullam	Severe: wetness, percs slowly.	Severe: wetness.	Severe: wetness.	Moderate: wetness.	Poor: small stones.
73C Fullam	Severe: wetness, percs slowly.	Severe: slope, wetness.	Severe: wetness.	Moderate: wetness, slope.	Poor: small stones.
73D Fullam	Severe: wetness, percs slowly, slope.	Severe: slope, wetness.	Severe: wetness, slope.	Severe: slope.	Poor: small stones, slope.
74B Fullam	Severe: wetness, percs slowly.	Severe: wetness.	Severe: wetness.	Moderate: wetness.	Poor: small stones.

See footnote at end of table.

TABLE 12.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
74C: Fullam	Severe: wetness, percs slowly.	Severe: slope, wetness.	Severe: wetness.	Moderate: wetness, slope.	Poor: small stones.
74D, 74E: Fullam	Severe: wetness, percs slowly, slope.	Severe: slope, wetness.	Severe: wetness, slope.	Severe: slope.	Poor: small stones, slope.
75B: Brayton	Severe: wetness, percs slowly.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Poor: small stones, wetness.
76B*:					
Dummerston	Slight	Moderate: seepage, slope.	Slight	Slight	Poor: small stones.
Macomber	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Poor: area reclaim, small stones.
76C*:					
Dummerston	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: slope.	Poor: small stones.
Macomber	Severe: depth to rock.	Severe: depth to rock, slope.	Severe: depth to rock.	Severe: depth to rock.	Poor: area reclaim, small stones.

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 13.--CONSTRUCTION MATERIALS

(Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "good," "fair," and other terms. Absence of an entry indicates that the soil was not rated. The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation)

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
1A, 1B, 1C Unadilla	Good	Probable	Probable	Fair: area reclaim.
1D Unadilla	Fair: slope.	Probable	Probable	Poor: slope.
2A Belgrade	Fair: low strength, wetness.	Improbable: excess fines.	Improbable: excess fines.	Good.
3B*, 3C*:				
Quonset	Good	Probable	Probable	Poor: small stones, area reclaim.
Warwick	Good	Probable	Probable	Poor: small stones, area reclaim.
3D*:				
Quonset	Fair: slope.	Probable	Probable	Poor: small stones, area reclaim, slope.
Warwick	Fair: slope.	Probable	Probable	Poor: slope, small stones, area reclaim.
3E*:				
Quonset	Poor: slope.	Probable	Probable	Poor: small stones, area reclaim, slope.
Warwick	Poor: slope.	Probable	Probable	Poor: slope, small stones, area reclaim.
5B, 5C Windsor	Good	Probable	Improbable: excess fines.	Poor: too sandy.
5D Windsor	Fair: slope.	Probable	Improbable: excess fines.	Poor: slope, too sandy.
5E Windsor	Poor: slope.	Probable	Improbable: excess fines.	Poor: slope, too sandy.

See footnote at end of table.

TABLE 13.--CONSTRUCTION MATERIALS--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
9B-------------------- Deerfield	Fair: wetness.	Probable-------------	Improbable: excess fines.	Poor: too sandy, thin layer.
10A, 10B-------------- Agawam	Good-----------------	Probable-------------	Probable-------------	Poor: too sandy, area reclaim.
11B*:				
Berkshire------------	Fair: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
Monadnock------------	Good-----------------	Probable-------------	Improbable: too sandy.	Fair: small stones.
11C*:				
Berkshire------------	Fair: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
Monadnock------------	Good-----------------	Probable-------------	Improbable: too sandy.	Fair: small stones, slope.
11D*:				
Berkshire------------	Fair: low strength, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
Monadnock------------	Fair: slope.	Probable-------------	Improbable: too sandy.	Poor: slope.
12C*:				
Stratton-------------	Poor: area reclaim, large stones.	Improbable: small stones, large stones.	Improbable: large stones.	Poor: area reclaim, large stones.
Glebe----------------	Poor: area reclaim.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
12D*:				
Stratton-------------	Poor: area reclaim, large stones.	Improbable: small stones, large stones.	Improbable: large stones.	Poor: area reclaim, large stones, slope.
Glebe----------------	Poor: area reclaim.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
12E*:				
Stratton-------------	Poor: area reclaim, large stones, slope.	Improbable: small stones, large stones.	Improbable: large stones.	Poor: area reclaim, large stones, slope.
Glebe----------------	Poor: area reclaim, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
16B, 16C-------------- Adams	Good-----------------	Probable-------------	Improbable: too sandy.	Poor: too sandy.

See footnote at end of table.

TABLE 13.--CONSTRUCTION MATERIALS--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
16D: Adams	Fair: slope.	Probable	Improbable: too sandy.	Poor: slope, too sandy.
16E: Adams	Poor: slope.	Probable	Improbable: too sandy.	Poor: slope, too sandy.
17B, 17C, 18B, 18C: Worden	Fair: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: area reclaim, small stones.
18D: Worden	Fair: wetness, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: area reclaim, small stones, slope.
20B*, 20C*:				
Tunbridge	Poor: area reclaim.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
Lyman	Poor: thin layer, area reclaim.	Improbable: excess fines, thin layer.	Improbable: excess fines, thin layer.	Poor: small stones, area reclaim, thin layer.
20D*:				
Tunbridge	Poor: area reclaim.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
Lyman	Poor: thin layer, area reclaim.	Improbable: excess fines, thin layer.	Improbable: excess fines, thin layer.	Poor: slope, small stones, thin layer.
20E*:				
Tunbridge	Poor: area reclaim, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
Lyman	Poor: slope, thin layer, area reclaim.	Improbable: excess fines, thin layer.	Improbable: excess fines, thin layer.	Poor: slope, small stones, thin layer.
21B, 21C: Marlow	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
21D: Marlow	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
22B, 22C: Marlow	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
22D: Marlow	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.

See footnote at end of table.

TABLE 13.--CONSTRUCTION MATERIALS--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
22E: Marlow	Poor: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
23: Ondawa	Good	Probable	Improbable: too sandy.	Fair: thin layer, small stones.
24: Podunk	Fair: wetness.	Probable	Improbable: too sandy.	Fair: small stones, thin layer, area reclaim.
25B, 25C: Westbury	Poor: frost action.	Probable	Probable	Poor: small stones.
26B, 26C, 26D: Westbury	Poor: frost action.	Probable	Probable	Poor: large stones.
29: Walpole	Poor: wetness.	Probable	Probable	Poor: wetness, small stones.
31B: Wilmington	Poor: area reclaim, wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: area reclaim, small stones, wetness.
33: Rumney	Poor: wetness.	Probable	Improbable: too sandy.	Poor: wetness, small stones.
34C*:				
Lyman	Poor: thin layer, area reclaim.	Improbable: excess fines, thin layer.	Improbable: excess fines, thin layer.	Poor: small stones, area reclaim, thin layer.
Rock outcrop.				
34D*:				
Lyman	Poor: thin layer, area reclaim.	Improbable: excess fines, thin layer.	Improbable: excess fines, thin layer.	Poor: slope, small stones, thin layer.
Rock outcrop.				
34E*:				
Lyman	Poor: slope, thin layer, area reclaim.	Improbable: excess fines, thin layer.	Improbable: excess fines, thin layer.	Poor: slope, small stones, thin layer.
Rock outcrop.				
37: Hadley	Fair: low strength.	Improbable: excess fines.	Improbable: excess fines.	Good.

See footnote at end of table.

TABLE 13.--CONSTRUCTION MATERIALS--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
39-------------------- Winooski	Fair: wetness, low strength.	Improbable: excess fines.	Improbable: excess fines.	Good.
40-------------------- Limerick	Poor: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: wetness.
41D*:				
Londonderry----------	Poor: area reclaim.	Improbable: excess fines.	Improbable: excess fines.	Poor: area reclaim, slope.
Stratton-------------	Poor: area reclaim.	Improbable: small stones, large stones.	Improbable: large stones.	Poor: area reclaim, small stones, slope.
41E*:				
Londonderry----------	Poor: area reclaim, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: area reclaim, slope.
Stratton-------------	Poor: area reclaim, slope.	Improbable: small stones, large stones.	Improbable: large stones.	Poor: area reclaim, small stones, slope.
43B, 43C------------- Mundal	Fair: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, area reclaim.
43D------------------ Mundal	Fair: wetness, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, area reclaim, slope.
44B, 44C------------- Mundal	Fair: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, area reclaim.
44D------------------ Mundal	Fair: wetness, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, area reclaim, slope.
44E------------------ Mundal	Poor: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, area reclaim, slope.
46B*, 46C*:				
Berkshire------------	Fair: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: large stones.
Monadnock------------	Good-----------------	Probable-------------	Improbable: too sandy.	Poor: small stones.
46D*:				
Berkshire------------	Fair: low strength, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: large stones, slope.

See footnote at end of table.

TABLE 13.--CONSTRUCTION MATERIALS--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
46D*:				
Monadnock	Fair: slope.	Probable	Improbable: too sandy.	Poor: small stones, slope.
46E*:				
Berkshire	Poor: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: large stones, slope.
Monadnock	Poor: slope.	Probable	Improbable: too sandy.	Poor: small stones, slope.
47 Lupton	Poor: wetness, low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: excess humus, wetness.
48B*, 48C*:				
Rawsonville	Poor: area reclaim.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
Hogback	Poor: area reclaim.	Improbable: excess fines.	Improbable: excess fines.	Poor: area reclaim, small stones.
48D*:				
Rawsonville	Poor: area reclaim.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
Hogback	Poor: area reclaim.	Improbable: excess fines.	Improbable: excess fines.	Poor: area reclaim, small stones, slope.
48E*:				
Rawsonville	Poor: area reclaim, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
Hogback	Poor: area reclaim, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: area reclaim, small stones, slope.
49B*, 49C*:				
Houghtonville	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
Rawsonville	Poor: area reclaim.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
49D*:				
Houghtonville	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
Rawsonville	Poor: area reclaim.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.

See footnote at end of table.

TABLE 13.--CONSTRUCTION MATERIALS--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
49E*:				
Houghtonville	Poor: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
Rawsonville	Poor: area reclaim, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
50B, 50C Colton	Good	Probable	Probable	Poor: small stones, too sandy.
50D Colton	Fair: slope.	Probable	Probable	Poor: slope, small stones, too sandy.
50E Colton	Poor: slope.	Probable	Probable	Poor: slope, small stones, too sandy.
52A, 52B Sheepscot	Fair: wetness.	Probable	Probable	Poor: small stones, area reclaim.
56B, 56C Monadnock	Good	Probable	Improbable: too sandy.	Poor: small stones.
56D Monadnock	Fair: slope.	Probable	Improbable: too sandy.	Poor: small stones, slope.
56E Monadnock	Poor: slope.	Probable	Improbable: too sandy.	Poor: small stones, slope.
60B, 60C Houghtonville	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
60D Houghtonville	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
61B, 61C Houghtonville	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
61D Houghtonville	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
61E Houghtonville	Poor: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
62 Markey	Poor: wetness.	Probable	Improbable: too sandy.	Poor: excess humus, wetness.

See footnote at end of table.

TABLE 13.--CONSTRUCTION MATERIALS--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
63C*:				
Berkshire	Fair: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: large stones.
Tunbridge	Poor: area reclaim.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
63D*:				
Berkshire	Fair: low strength, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: large stones, slope.
Tunbridge	Poor: area reclaim.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
63E*:				
Berkshire	Poor: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: large stones, slope.
Tunbridge	Poor: area reclaim, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
64. Udifluvents				
65C*:				
Hogback	Poor: area reclaim.	Improbable: excess fines.	Improbable: excess fines.	Poor: area reclaim, small stones.
Rawsonville	Poor: area reclaim.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
65D*:				
Hogback	Poor: area reclaim.	Improbable: excess fines.	Improbable: excess fines.	Poor: area reclaim, small stones, slope.
Rawsonville	Poor: area reclaim.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
65E*:				
Hogback	Poor: area reclaim, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: area reclaim, small stones, slope.
Rawsonville	Poor: area reclaim, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
66B*, 66C*:				
Houghtonville	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.

See footnote at end of table.

TABLE 13.--CONSTRUCTION MATERIALS--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
66B*, 66C*:				
Rawsonville	Poor: area reclaim.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
67B*, 67C*:				
Berkshire	Fair: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
Tunbridge	Poor: area reclaim.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
68D*:				
Taconic	Poor: area reclaim, thin layer.	Improbable: excess fines.	Improbable: excess fines.	Poor: area reclaim, small stones, slope.
Hubbardton	Poor: area reclaim, large stones.	Improbable: excess fines.	Improbable: excess fines.	Poor: area reclaim, large stones, slope.
Rock outcrop.				
68E*:				
Taconic	Poor: area reclaim, thin layer, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: area reclaim, small stones, slope.
Hubbardton	Poor: area reclaim, large stones, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: area reclaim, large stones, slope.
Rock outcrop.				
69C*:				
Macomber	Poor: area reclaim.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
Taconic	Poor: area reclaim.	Improbable: excess fines.	Improbable: excess fines.	Poor: area reclaim, small stones.
69D*:				
Macomber	Poor: area reclaim.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
Taconic	Poor: area reclaim.	Improbable: excess fines.	Improbable: excess fines.	Poor: area reclaim, small stones, slope.
69E*:				
Macomber	Poor: area reclaim, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.

See footnote at end of table.

TABLE 13.--CONSTRUCTION MATERIALS--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
69E*:				
Taconic	Poor: area reclaim, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: area reclaim, small stones, slope.
70C*:				
Dummerston	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, area reclaim.
Macomber	Poor: area reclaim.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
70D*:				
Dummerston	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, area reclaim, slope.
Macomber	Poor: area reclaim.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
70E*:				
Dummerston	Poor: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, area reclaim, slope.
Macomber	Poor: area reclaim, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
71B, 71C Dummerston	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, area reclaim.
71D Dummerston	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, area reclaim, slope.
72C Dummerston	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, area reclaim.
72D Dummerston	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, area reclaim, slope.
72E Dummerston	Poor: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, area reclaim, slope.
73B, 73C Fullam	Fair: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, area reclaim.

See footnote at end of table.

TABLE 13.--CONSTRUCTION MATERIALS--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
73D------------------- Fullam	Fair: wetness, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, area reclaim, slope.
74B, 74C-------------- Fullam	Fair: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, area reclaim.
74D------------------- Fullam	Fair: wetness, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, area reclaim, slope.
74E------------------- Fullam	Poor: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, area reclaim, slope.
75B------------------- Brayton	Poor: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: area reclaim, small stones, wetness.
76B*, 76C*:				
Dummerston-----------	Good-----------------	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, area reclaim.
Macomber-------------	Poor: area reclaim.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 14.--WATER MANAGEMENT

(Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "moderate" and "severe." Absence of an entry indicates that the soil was not evaluated. The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation)

Soil name and map symbol	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Features affecting-- Drainage	Irrigation	Terraces and diversions	Grassed waterways
1A----------------- Unadilla	Moderate: seepage.	Severe: piping.	Deep to water	Erodes easily	Erodes easily	Erodes easily.
1B----------------- Unadilla	Moderate: seepage, slope.	Severe: piping.	Deep to water	Erodes easily, slope.	Erodes easily	Erodes easily.
1C, 1D------------ Unadilla	Severe: slope.	Severe: piping.	Deep to water	Erodes easily, slope.	Slope, erodes easily.	Slope, erodes easily.
1E. Udorthents						
2A----------------- Belgrade	Severe: seepage.	Severe: piping, wetness.	Percs slowly, frost action.	Wetness, percs slowly.	Erodes easily, wetness.	Erodes easily, percs slowly.
3B*:						
Quonset-----------	Severe: seepage.	Severe: seepage.	Deep to water	Droughty, slope.	Too sandy------	Droughty.
Warwick-----------	Severe: seepage.	Severe: seepage.	Deep to water	Droughty, slope.	Large stones, too sandy.	Large stones, droughty.
3C*, 3D*, 3E*:						
Quonset-----------	Severe: seepage, slope.	Severe: seepage.	Deep to water	Droughty, slope.	Slope, too sandy.	Slope, droughty.
Warwick-----------	Severe: seepage, slope.	Severe: seepage.	Deep to water	Droughty, slope.	Slope, large stones, too sandy.	Large stones, slope, droughty.
5B----------------- Windsor	Severe: seepage.	Severe: seepage, piping.	Slope, cutbanks cave.	Slope, droughty, fast intake.	Too sandy------	Droughty.
5C, 5D, 5E-------- Windsor	Severe: slope, seepage.	Severe: seepage, piping.	Slope, cutbanks cave.	Slope, droughty, fast intake.	Slope, too sandy.	Slope, droughty.
9B----------------- Deerfield	Severe: seepage.	Severe: seepage.	Slope, cutbanks cave.	Wetness, droughty, slope.	Wetness, too sandy.	Droughty.
10A---------------- Agawam	Severe: seepage.	Severe: seepage.	Deep to water	Favorable------	Too sandy------	Favorable.
10B---------------- Agawam	Severe: seepage.	Severe: seepage.	Deep to water	Slope----------	Too sandy------	Favorable.
11B*:						
Berkshire---------	Severe: seepage.	Severe: piping.	Deep to water	Slope----------	Favorable------	Favorable.

See footnote at end of table.

TABLE 14.--WATER MANAGEMENT--Continued

Soil name and map symbol	Limitations for-- Pond reservoir areas	Limitations for-- Embankments, dikes, and levees	Features affecting-- Drainage	Features affecting-- Irrigation	Features affecting-- Terraces and diversions	Features affecting-- Grassed waterways
11B*: Monadnock	Severe: seepage.	Severe: seepage.	Deep to water	Slope	Too sandy	Favorable.
11C*, 11D*: Berkshire	Severe: slope, seepage.	Severe: piping.	Deep to water	Slope	Slope	Slope.
Monadnock	Severe: seepage, slope.	Severe: seepage.	Deep to water	Slope	Slope, too sandy.	Slope.
12C*, 12D*, 12E*: Stratton	Severe: depth to rock, slope.	Severe: seepage, piping, large stones.	Deep to water	Large stones, depth to rock, slope.	Slope, large stones, depth to rock.	Large stones, slope, erodes easily.
Glebe	Severe: seepage, slope.	Severe: piping.	Deep to water	Depth to rock, slope.	Slope, depth to rock.	Slope, erodes easily.
16B Adams	Severe: seepage.	Severe: seepage, piping.	Deep to water	Droughty, fast intake, slope.	Too sandy	Droughty.
16C, 16D, 16E Adams	Severe: seepage, slope.	Severe: seepage, piping.	Deep to water	Droughty, fast intake, slope.	Slope, too sandy.	Slope, droughty.
17B Worden	Moderate: seepage, slope.	Severe: piping.	Percs slowly, frost action, slope.	Wetness, droughty, percs slowly.	Erodes easily, wetness.	Wetness, erodes easily.
17C Worden	Severe: slope.	Severe: piping.	Percs slowly, frost action, slope.	Wetness, droughty, percs slowly.	Slope, erodes easily, wetness.	Wetness, slope, erodes easily.
18B Worden	Moderate: seepage, slope.	Severe: piping.	Percs slowly, frost action, slope.	Wetness, droughty, percs slowly.	Erodes easily, wetness.	Wetness, erodes easily.
18C, 18D Worden	Severe: slope.	Severe: piping.	Percs slowly, frost action, slope.	Wetness, droughty, percs slowly.	Slope, erodes easily, wetness.	Wetness, slope, erodes easily.
20B*: Tunbridge	Severe: seepage.	Severe: piping.	Deep to water	Droughty, depth to rock, slope.	Large stones, depth to rock.	Large stones, droughty.
Lyman	Severe: seepage, depth to rock.	Severe: thin layer, piping.	Deep to water	Slope, depth to rock, droughty.	Depth to rock	Depth to rock, droughty.
20C*, 20D*, 20E*: Tunbridge	Severe: seepage, slope.	Severe: piping.	Deep to water	Droughty, depth to rock, slope.	Slope, large stones, depth to rock.	Large stones, slope, droughty.

See footnote at end of table.

TABLE 14.--WATER MANAGEMENT--Continued

Soil name and map symbol	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Features affecting-- Drainage	Irrigation	Terraces and diversions	Grassed waterways
20C*, 20D*, 20E*: Lyman	Severe: slope, seepage, depth to rock.	Severe: thin layer, piping.	Deep to water	Slope, depth to rock, droughty.	Slope, depth to rock.	Slope, depth to rock, droughty.
21B Marlow	Moderate: slope.	Severe: piping.	Deep to water	Percs slowly, rooting depth, slope.	Percs slowly	Rooting depth, percs slowly.
21C, 21D Marlow	Severe: slope.	Severe: piping.	Deep to water	Percs slowly, rooting depth, slope.	Slope, percs slowly.	Slope, rooting depth, percs slowly.
22B Marlow	Moderate: slope.	Severe: piping.	Deep to water	Percs slowly, rooting depth, slope.	Percs slowly	Rooting depth, percs slowly.
22C, 22D, 22E Marlow	Severe: slope.	Severe: piping.	Deep to water	Percs slowly, rooting depth, slope.	Slope, percs slowly.	Slope, rooting depth, percs slowly.
23 Ondawa	Severe: seepage.	Severe: seepage, piping.	Deep to water	Flooding	Too sandy, erodes easily.	Erodes easily.
24 Podunk	Severe: seepage.	Severe: seepage, piping, wetness.	Frost action, flooding, cutbanks cave.	Wetness, flooding.	Wetness, too sandy, erodes easily.	Erodes easily.
25B Westbury	Moderate: slope.	Severe: seepage, piping, wetness.	Percs slowly, frost action.	Wetness, rooting depth.	Wetness, rooting depth.	Wetness, rooting depth.
25C Westbury	Severe: slope.	Severe: seepage, piping, wetness.	Slope, percs slowly, frost action.	Slope, wetness, rooting depth.	Wetness, rooting depth.	Slope, wetness, rooting depth.
26B Westbury	Moderate: slope.	Severe: seepage, piping, wetness.	Large stones, percs slowly, frost action.	Large stones, wetness, rooting depth.	Large stones, wetness, rooting depth.	Large stones, wetness, rooting depth.
26C Westbury	Severe: slope.	Severe: seepage, piping, wetness.	Slope, large stones, percs slowly.	Slope, large stones, wetness.	Large stones, wetness, rooting depth.	Slope, large stones, wetness.
26D Westbury	Severe: slope.	Severe: seepage, piping, wetness.	Slope, large stones, percs slowly.	Slope, large stones, wetness.	Slope, large stones, wetness.	Slope, large stones, wetness.
29 Walpole	Severe: seepage.	Severe: seepage, wetness.	Frost action, cutbanks cave.	Wetness	Wetness, too sandy.	Wetness.

See footnote at end of table.

TABLE 14.--WATER MANAGEMENT--Continued

Soil name and map symbol	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Features affecting-- Drainage	Irrigation	Terraces and diversions	Grassed waterways
31B----------------- Wilmington	Moderate: slope.	Severe: piping, wetness.	Percs slowly, frost action.	Wetness, percs slowly.	Erodes easily	Wetness, erodes easily.
33----------------- Rumney	Severe: seepage.	Severe: seepage, piping, wetness.	Frost action, flooding, cutbanks cave.	Flooding, wetness.	Wetness, too sandy, erodes easily.	Wetness, erodes easily.
34C*, 34D*, 34E*:						
Lyman------------	Severe: slope, seepage, depth to rock.	Severe: thin layer, piping.	Deep to water	Slope, depth to rock, droughty.	Slope, depth to rock.	Slope, depth to rock, droughty.
Rock outcrop.						
37----------------- Hadley	Severe: seepage.	Severe: piping.	Deep to water	Flooding, erodes easily.	Erodes easily	Erodes easily.
39----------------- Winooski	Severe: seepage.	Severe: piping.	Flooding, frost action, cutbanks cave.	Wetness, erodes easily, flooding.	Erodes easily, wetness.	Erodes easily.
40----------------- Limerick	Moderate: seepage.	Severe: piping, wetness.	Flooding, frost action.	Wetness, flooding, erodes easily.	Wetness, erodes easily.	Wetness, erodes easily.
41D*, 41E*:						
Londonderry-------	Severe: depth to rock, slope.	Severe: thin layer.	Deep to water	Depth to rock, slope, erodes easily.	Slope, depth to rock, erodes easily.	Slope, erodes easily, depth to rock.
Stratton----------	Severe: depth to rock, slope.	Severe: seepage, piping, large stones.	Deep to water	Large stones, depth to rock, slope.	Slope, large stones, depth to rock.	Large stones, slope, erodes easily.
43B---------------- Mundal	Moderate: seepage, slope.	Severe: seepage, piping.	Percs slowly, frost action, slope.	Wetness, percs slowly, rooting depth.	Large stones, erodes easily.	Erodes easily, rooting depth.
43C, 43D----------- Mundal	Severe: slope.	Severe: seepage, piping.	Percs slowly, frost action, slope.	Wetness, percs slowly, rooting depth.	Slope, large stones, erodes easily.	Slope, erodes easily, rooting depth.
44B---------------- Mundal	Moderate: seepage, slope.	Severe: seepage, piping.	Percs slowly, frost action, slope.	Wetness, percs slowly, rooting depth.	Large stones, erodes easily.	Large stones, erodes easily.
44C, 44D, 44E------ Mundal	Severe: slope.	Severe: seepage, piping.	Percs slowly, frost action, slope.	Wetness, percs slowly, rooting depth.	Slope, large stones, erodes easily.	Large stones, slope, erodes easily.
46B*:						
Berkshire---------	Severe: seepage.	Severe: piping.	Deep to water	Slope-----------	Slope, large stones.	Large stones.
Monadnock---------	Severe: seepage.	Severe: seepage.	Deep to water	Slope-----------	Large stones, too sandy.	Favorable.

See footnote at end of table.

TABLE 14.--WATER MANAGEMENT--Continued

Soil name and map symbol	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Features affecting-- Drainage	Irrigation	Terraces and diversions	Grassed waterways
46C*, 46D*, 46E*:						
Berkshire	Severe: slope, seepage.	Severe: piping.	Deep to water	Slope	Slope, large stones.	Slope, large stones.
Monadnock	Severe: seepage, slope.	Severe: seepage.	Deep to water	Slope	Slope, large stones, too sandy.	Slope.
47 Lupton	Severe: seepage.	Severe: excess humus, ponding.	Ponding, subsides, frost action.	Ponding, soil blowing.	Ponding, soil blowing.	Wetness.
48B*:						
Rawsonville	Severe: seepage.	Severe: piping.	Deep to water	Depth to rock, slope, erodes easily.	Depth to rock, erodes easily.	Erodes easily, depth to rock.
Hogback	Severe: depth to rock.	Severe: piping.	Deep to water	Depth to rock, slope.	Large stones, depth to rock.	Large stones, erodes easily.
48C*, 48D*, 48E*:						
Rawsonville	Severe: seepage, slope.	Severe: piping.	Deep to water	Depth to rock, slope, erodes easily.	Slope, depth to rock, erodes easily.	Slope, erodes easily, depth to rock.
Hogback	Severe: depth to rock, slope.	Severe: piping.	Deep to water	Depth to rock, slope.	Slope, large stones, depth to rock.	Large stones, slope, erodes easily.
49B*:						
Houghtonville	Severe: seepage.	Severe: piping.	Deep to water	Rooting depth, slope, erodes easily.	Erodes easily	Erodes easily, rooting depth.
Rawsonville	Severe: seepage.	Severe: piping.	Deep to water	Depth to rock, slope, erodes easily.	Depth to rock, erodes easily.	Erodes easily, depth to rock.
49C*, 49D*, 49E*:						
Houghtonville	Severe: seepage, slope.	Severe: piping.	Deep to water	Rooting depth, slope, erodes easily.	Slope, erodes easily.	Slope, erodes easily, rooting depth.
Rawsonville	Severe: seepage, slope.	Severe: piping.	Deep to water	Depth to rock, slope, erodes easily.	Slope, depth to rock, erodes easily.	Slope, erodes easily, depth to rock.
50B Colton	Severe: seepage.	Severe: seepage.	Deep to water	Slope, droughty, fast intake.	Large stones, too sandy.	Droughty, large stones.
50C, 50D, 50E Colton	Severe: seepage, slope.	Severe: seepage.	Deep to water	Slope, droughty, fast intake.	Slope, large stones, too sandy.	Slope, droughty, large stones.
52A Sheepscot	Severe: seepage.	Severe: seepage, wetness.	Cutbanks cave	Wetness, droughty.	Wetness, too sandy.	Droughty.

See footnote at end of table.

TABLE 14.--WATER MANAGEMENT--Continued

Soil name and map symbol	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Features affecting-- Drainage	Irrigation	Terraces and diversions	Grassed waterways
52B--------------- Sheepscot	Severe: seepage.	Severe: seepage, wetness.	Slope, cutbanks cave.	Wetness, droughty, slope.	Wetness, too sandy.	Droughty.
56B--------------- Monadnock	Severe: seepage.	Severe: seepage.	Deep to water	Slope----------	Large stones, too sandy.	Favorable.
56C, 56D, 56E----- Monadnock	Severe: seepage, slope.	Severe: seepage.	Deep to water	Slope----------	Slope, large stones, too sandy.	Slope.
60B--------------- Houghtonville	Severe: seepage.	Severe: piping.	Deep to water	Rooting depth, slope, erodes easily.	Erodes easily	Erodes easily, rooting depth.
60C, 60D---------- Houghtonville	Severe: seepage, slope.	Severe: piping.	Deep to water	Rooting depth, slope, erodes easily.	Slope, erodes easily.	Slope, erodes easily, rooting depth.
61B--------------- Houghtonville	Severe: seepage.	Severe: piping.	Deep to water	Rooting depth, slope, erodes easily.	Erodes easily	Erodes easily, rooting depth.
61C, 61D, 61E----- Houghtonville	Severe: seepage, slope.	Severe: piping.	Deep to water	Rooting depth, slope, erodes easily.	Slope, erodes easily.	Slope, erodes easily, rooting depth.
62---------------- Markey	Severe: seepage.	Severe: seepage, piping, ponding.	Ponding, subsides, frost action.	Ponding, soil blowing.	Ponding, too sandy, soil blowing.	Wetness.
63C*, 63D*, 63E*:						
Berkshire---------	Severe: slope, seepage.	Severe: piping.	Deep to water	Slope----------	Slope, large stones.	Slope, large stones.
Tunbridge---------	Severe: seepage, slope.	Severe: piping.	Deep to water	Droughty, depth to rock, slope.	Slope, large stones, depth to rock.	Large stones, slope, droughty.
64. Udifluvents						
65C*, 65D*, 65E*:						
Hogback----------	Severe: depth to rock, slope.	Severe: piping.	Deep to water	Depth to rock, slope.	Slope, large stones, depth to rock.	Large stones, slope, erodes easily.
Rawsonville------	Severe: seepage, slope.	Severe: piping.	Deep to water	Depth to rock, slope, erodes easily.	Slope, depth to rock, erodes easily.	Slope, erodes easily, depth to rock.
66B*:						
Houghtonville----	Severe: seepage.	Severe: piping.	Deep to water	Rooting depth, slope, erodes easily.	Erodes easily	Erodes easily, rooting depth.
Rawsonville------	Severe: seepage.	Severe: piping.	Deep to water	Depth to rock, slope, erodes easily.	Depth to rock, erodes easily.	Erodes easily, depth to rock.

See footnote at end of table.

TABLE 14.--WATER MANAGEMENT--Continued

Soil name and map symbol	Limitations for-- Pond reservoir areas	Limitations for-- Embankments, dikes, and levees	Features affecting-- Drainage	Features affecting-- Irrigation	Features affecting-- Terraces and diversions	Features affecting-- Grassed waterways
66C*:						
Houghtonville	Severe: seepage, slope.	Severe: piping.	Deep to water	Rooting depth, slope, erodes easily.	Slope, erodes easily.	Slope, erodes easily, rooting depth.
Rawsonville	Severe: seepage, slope.	Severe: piping.	Deep to water	Depth to rock, slope, erodes easily.	Slope, depth to rock, erodes easily.	Slope, erodes easily, depth to rock.
67B*:						
Berkshire	Severe: seepage.	Severe: piping.	Deep to water	Slope	Favorable	Favorable.
Tunbridge	Severe: seepage.	Severe: piping.	Deep to water	Droughty, depth to rock, slope.	Depth to rock	Droughty, depth to rock.
67C*:						
Berkshire	Severe: slope, seepage.	Severe: piping.	Deep to water	Slope	Slope	Slope.
Tunbridge	Severe: seepage, slope.	Severe: piping.	Deep to water	Droughty, depth to rock, slope.	Slope, depth to rock.	Slope, droughty, depth to rock.
68D*, 68E*:						
Taconic	Severe: seepage, depth to rock, slope.	Severe: thin layer.	Deep to water	Droughty, depth to rock, slope.	Slope, depth to rock.	Slope, droughty, depth to rock.
Hubbardton	Severe: depth to rock, slope.	Severe: large stones.	Deep to water	Large stones, droughty, depth to rock.	Slope, large stones, depth to rock.	Large stones.
Rock outcrop.						
69C*, 69D*, 69E*:						
Macomber	Severe: slope.	Severe: seepage.	Deep to water	Droughty, depth to rock, slope.	Slope, large stones, depth to rock.	Large stones, slope, droughty.
Taconic	Severe: depth to rock, slope.	Severe: seepage.	Deep to water	Droughty, depth to rock.	Slope, large stones, depth to rock.	Large stones, slope, droughty.
70C*, 70D*, 70E*:						
Dummerston	Severe: slope.	Severe: piping.	Deep to water	Droughty, slope.	Slope, large stones.	Large stones, slope, droughty.
Macomber	Severe: slope.	Severe: seepage.	Deep to water	Droughty, depth to rock, slope.	Slope, large stones, depth to rock.	Large stones, slope, droughty.
71B Dummerston	Moderate: seepage, slope.	Severe: piping.	Deep to water	Droughty, slope.	Favorable	Droughty.

See footnote at end of table.

TABLE 14.--WATER MANAGEMENT--Continued

Soil name and map symbol	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Features affecting-- Drainage	Irrigation	Terraces and diversions	Grassed waterways
71C, 71D---------- Dummerston	Severe: slope.	Severe: piping.	Deep to water	Droughty, slope.	Slope----------	Slope, droughty.
72C, 72D, 72E----- Dummerston	Severe: slope.	Severe: piping.	Deep to water	Droughty, slope.	Slope, large stones.	Large stones, slope, droughty.
73B--------------- Fullam	Moderate: seepage, slope.	Severe: piping.	Percs slowly, slope.	Wetness, percs slowly.	Erodes easily, wetness.	Erodes easily.
73C, 73D---------- Fullam	Severe: slope.	Severe: piping.	Percs slowly, slope.	Wetness, percs slowly.	Slope, erodes easily, wetness.	Slope, erodes easily.
74B--------------- Fullam	Moderate: seepage, slope.	Severe: piping.	Percs slowly, slope.	Wetness, droughty, percs slowly.	Large stones, erodes easily.	Large stones, erodes easily.
74C, 74D, 74E----- Fullam	Severe: slope.	Severe: piping.	Percs slowly, slope.	Wetness, droughty, percs slowly.	Slope, large stones, erodes easily.	Large stones, slope, erodes easily.
75B--------------- Brayton	Moderate: slope.	Severe: piping, wetness.	Percs slowly, frost action, slope.	Wetness, droughty, percs slowly.	Large stones, erodes easily.	Large stones, wetness.
76B*:						
Dummerston-------	Moderate: seepage, slope.	Severe: piping.	Deep to water	Droughty, slope.	Favorable------	Droughty.
Macomber---------	Moderate: seepage, depth to rock, slope.	Severe: seepage.	Deep to water	Droughty, depth to rock, slope.	Depth to rock	Droughty, depth to rock.
76C*:						
Dummerston-------	Severe: slope.	Severe: piping.	Deep to water	Droughty, slope.	Slope----------	Slope, droughty.
Macomber---------	Severe: slope.	Severe: seepage.	Deep to water	Droughty, depth to rock, slope.	Slope, depth to rock.	Slope, droughty, depth to rock.

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 15.--ENGINEERING INDEX PROPERTIES

(The symbol < means less than; > means more than. Absence of an entry indicates that data were not estimated)

Soil name and map symbol	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments > 3 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct					Pct	
1A, 1B, 1C, 1D--- Unadilla	0-10	Silt loam--------	ML	A-4	0	100	95-100	90-100	70-90	<35	NP-10
	10-60	Silt loam, very fine sandy loam.	ML, CL-ML	A-4	0	100	95-100	90-100	70-90	<25	NP-10
1E. Udorthents											
2A--------------- Belgrade	0-8	Silt loam--------	ML	A-4	0	100	95-100	90-100	60-95	<35	NP-8
	8-26	Silt loam, very fine sandy loam, loamy very fine sand.	ML	A-4	0	100	95-100	85-100	50-90	<35	NP-8
	26-60	Silt loam, loamy very fine sand, sand and gravel.	ML, SM, SC	A-1, A-2, A-4	0	75-100	55-100	35-100	15-90	<35	NP-8
3B*, 3C*, 3D*, 3E*:											
Quonset--------	0-7	Fine sandy loam	SP-SM, SM, ML	A-2, A-4	0-5	75-100	70-100	50-85	10-55	---	NP
	7-20	Channery loamy sand, gravelly loamy sand, loamy sand.	GP-GM, GM, SP-SM, SM	A-1, A-2	0-5	45-75	40-75	20-50	5-20	---	NP
	20-60	Stratified very channery coarse sand to very channery sand.	GP, GP-GM, SP, SP-SM	A-1, A-2	0-5	20-70	10-60	5-45	0-10	---	NP
Warwick--------	0-2	Gravelly loam----	GM, GW-GM, SP-SM, SM	A-1, A-2, A-4	0-15	40-75	35-70	20-65	10-50	<37	NP-8
	2-24	Gravelly fine sandy loam, gravelly sandy loam, very gravelly sandy loam.	GM, GW-GM, SP-SM, SM	A-1, A-2, A-4	0-15	40-75	35-70	20-60	10-40	<37	NP-8
	24-60	Stratified loamy sand to gravel.	SW, GW, SW-SM, GW-GM	A-1, A-2	5-20	50-65	25-50	15-35	0-15	---	NP
5B, 5C, 5D, 5E--- Windsor	0-3	Loamy fine sand	SM	A-2, A-1	0	95-100	85-100	35-85	20-35	---	NP
	3-14	Loamy sand, loamy fine sand, sand.	SW-SM, SM, SP-SM	A-2, A-1	0	95-100	85-100	45-95	10-30	---	NP
	14-60	Sand, fine sand	SP-SM, SM	A-2, A-3, A-1	0	90-100	75-100	40-95	5-20	---	NP
9B--------------- Deerfield	0-8	Fine sandy loam	SM, ML	A-2, A-4	0	95-100	80-100	50-85	25-55	---	NP
	8-21	Loamy fine sand, sand, coarse sand.	SM, SP-SM	A-1, A-2, A-3	0	95-100	80-100	40-75	5-30	---	NP
	21-60	Sand, fine sand, loamy fine sand, coarse sand.	SP, SM	A-1, A-2, A-3	0	95-100	65-100	30-75	3-30	---	NP

See footnote at end of table.

TABLE 15.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Fragments > 3 inches	Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
10A, 10B--------- Agawam	0-10	Very fine sandy loam.	SM, ML	A-4	0	95-100	90-100	65-95	40-65	<25	NP-3
	10-25	Fine sandy loam, very fine sandy loam, loam.	SM, ML	A-4	0	95-100	85-100	65-95	40-65	<25	NP-3
	25-60	Fine sand, loamy fine sand, loamy sand.	SM, SP-SM	A-2	0	90-100	85-100	40-90	5-35	---	NP
11B*, 11C*, 11D*: Berkshire--------	0-8	Fine sandy loam	SM, ML	A-2, A-4	0-15	80-95	70-90	45-90	20-70	<30	NP-10
	8-23	Fine sandy loam, sandy loam, gravelly loam.	SM, ML	A-2, A-4	0-20	75-95	65-85	40-85	20-65	<30	NP-10
	23-60	Fine sandy loam, sandy loam, gravelly loam.	SM, ML	A-2, A-4	0-20	75-90	65-85	40-80	20-60	<20	NP-6
Monadnock--------	0-8	Fine sandy loam	SM, ML	A-2, A-4	0-5	90-100	85-100	55-85	30-60	<18	NP
	8-24	Fine sandy loam, loam, gravelly fine sandy loam.	SM, ML	A-2, A-4	0-10	80-100	70-100	50-85	30-60	<12	NP
	24-60	Loamy sand, gravelly loamy sand, gravelly loamy fine sand.	SM, SP-SM, SW-SM	A-1, A-2	0-35	65-100	50-100	20-60	10-30	---	NP
12C*, 12D*, 12E*: Stratton---------	0-4	Silt loam--------	ML, CL, SM, SM-SC	A-4, A-2-4, A-2-5, A-5	5-30	80-100	75-100	50-100	30-90	20-50	NP-10
	4-7	Silt loam, fine sandy loam, very cobbly fine sandy loam.	ML, CL, GM, GW-GM	A-1, A-2, A-4, A-5	0-60	30-100	25-100	20-100	10-90	20-50	NP-10
	7-16	Silt loam, gravelly fine sandy loam, very cobbly fine sandy loam.	ML, CL, GM, GW-GM	A-1, A-2, A-4, A-5	15-60	30-100	25-85	20-85	10-75	20-50	NP-10
	16	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Glebe------------	0-8	Very fine sandy loam.	ML, CL, SM, CL-ML	A-4, A-2-4, A-5	5-30	70-100	65-95	45-95	25-85	20-50	NP-10
	8-25	Silt loam, very fine sandy loam, gravelly fine sandy loam.	ML, CL, SM, GM	A-4, A-2-4, A-5	0-5	65-90	60-85	40-85	25-75	20-50	NP-10
	25	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
16B, 16C, 16D, 16E------------- Adams	0-2	Loamy fine sand	SM, SP-SM	A-1, A-2, A-3, A-4	0	95-100	95-100	45-85	5-40	---	NP
	2-21	Loamy sand, sand, loamy fine sand.	SM, SP-SM	A-1, A-2, A-3, A-4	0	95-100	95-100	35-95	5-40	---	NP
	21-60	Sand, coarse sand	SP-SM, SW-SM, SP	A-1, A-2, A-3	0-1	90-100	70-100	20-90	0-10	---	NP

See footnote at end of table.

TABLE 15.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Frag- ments > 3 inches	Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
17B, 17C--------- Worden	0-2	Loam-------------	SM, ML, CL, CL-ML	A-4, A-2-4, A-5	0-5	85-100	80-95	55-95	30-85	20-50	NP-10
	2-18	Silt loam, loam, gravelly sandy loam.	SM, ML, CL, CL-ML	A-4, A-2-4, A-5	0-5	70-100	65-95	55-95	30-85	20-50	NP-10
	18-50	Silt loam, loam, gravelly sandy loam.	SM, ML, CL, CL-ML	A-4, A-2-4	0-10	65-100	60-95	50-95	30-85	<30	NP-10
	50-60	Loam, fine sandy loam, gravelly fine sandy loam.	SM, ML, CL, CL-ML	A-4, A-2-4	0-10	65-100	60-95	40-90	25-70	<30	NP-10
18B, 18C, 18D---- Worden	0-2	Loam-------------	SM, ML, CL, CL-ML	A-4, A-2-4, A-5	5-40	85-100	80-95	55-95	30-85	20-50	NP-10
	2-18	Silt loam, loam, gravelly sandy loam.	SM, GM, CL, CL-ML	A-4, A-2-4	0-5	70-100	65-95	55-95	30-85	20-50	NP-10
	18-50	Silt loam, loam, gravelly sandy loam.	SM, GM, CL, CL-ML	A-4, A-2-4	0-10	65-100	60-95	50-95	30-85	<30	NP-10
	50-60	Loam, fine sandy loam, gravelly fine sandy loam.	SM, ML, CL, GM-GC	A-4, A-2-4	0-10	65-100	60-95	40-90	25-70	<30	NP-10

See footnote at end of table.

TABLE 15.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Fragments > 3 inches	Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
20B*, 20C*, 20D*, 20E*:											
Tunbridge------	0-2	Fine sandy loam	SM, ML, GM	A-4, A-2	5-25	55-100	50-95	35-95	20-85	<20	NP-2
	2-27	Silt loam, gravelly fine sandy loam, channery fine sandy loam.	SM, ML	A-4, A-5, A-2	0-15	70-100	65-95	45-95	25-85	20-50	NP-6
	27	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Lyman----------	0-5	Fine sandy loam	SM, ML	A-1, A-2, A-4	5-20	60-80	60-90	35-80	15-75	<30	NP-6
	5-15	Loam, channery fine sandy loam, silt loam.	SM, ML	A-1, A-2, A-4	0-20	55-90	60-90	35-85	20-80	<30	NP-4
	15	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
21B, 21C, 21D---- Marlow	0-9	Fine sandy loam	SM, ML, CL-ML	A-2, A-4	0-10	90-100	75-90	50-90	30-80	<30	NP-10
	9-30	Fine sandy loam, loam, gravelly sandy loam.	SM, ML, SM-SC, CL-ML	A-2, A-4, A-1-B	0-15	75-95	60-90	40-85	20-65	<30	NP-10
	30-60	Fine sandy loam, loam, gravelly sandy loam.	SM, ML, SM-SC, CL-ML	A-2, A-4, A-1-B	0-15	70-90	60-85	35-80	20-60	<30	NP-10
22B, 22C, 22D, 22E------------- Marlow	0-2	Fine sandy loam	SM, ML, CL-ML	A-2, A-4	5-15	90-100	75-90	50-90	30-80	<30	NP-10
	2-30	Fine sandy loam, loam, gravelly sandy loam.	SM, ML, SM-SC, CL-ML	A-2, A-4, A-1-B	0-15	75-95	60-90	40-85	20-65	<30	NP-10
	30-60	Fine sandy loam, loam, gravelly sandy loam.	SM, ML, SM-SC, CL-ML	A-2, A-4, A-1-B	0-15	70-90	60-85	35-80	20-60	<30	NP-10
23--------------- Ondawa	0-6	Fine sandy loam	SM, ML	A-2, A-4	0	100	100	60-100	30-60	---	NP
	6-26	Fine sandy loam, sandy loam, loam.	SM, ML	A-2, A-4	0	100	100	80-95	20-70	---	NP
	26-60	Stratified loamy fine sand to sand.	SP, SM	A-2, A-3	0	90-100	75-100	70-90	0-35	---	NP
24--------------- Podunk	0-8	Fine sandy loam	SM, ML	A-2, A-4	0	100	100	60-100	30-90	---	NP
	8-30	Fine sandy loam, sandy loam, loam.	SM, ML	A-2, A-4	0	100	100	60-95	30-75	---	NP
	30-60	Stratified loamy fine sand to gravelly coarse sand.	SP-SM, SM	A-2, A-1, A-3	0	75-100	65-100	35-85	5-25	---	NP

See footnote at end of table.

TABLE 15.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Frag- ments > 3 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct					Pct	
25B, 25C--------- Westbury	0-6	Fine sandy loam	SM, OL	A-2, A-4, A-1	0-5	80-95	75-90	45-75	20-45	<15	NP-4
	6-15	Gravelly loam, silt loam, gravelly sandy loam.	SM, GM, ML	A-2, A-4, A-1	0-5	55-95	50-90	30-90	15-80	<15	NP-4
	15-28	Gravelly sandy loam, very gravelly fine sandy loam, loam.	SM, GM, GW-GM, ML	A-1, A-2, A-4	0-5	40-90	35-85	20-80	10-65	<15	NP-4
	28-60	Gravelly sandy loam, very gravelly fine sandy loam, loam.	GM, GW-GM, SM, ML	A-1, A-2, A-4	0-5	40-90	35-85	20-80	10-65	<15	NP-4
26B, 26C, 26D---- Westbury	0-6	Fine sandy loam	SM, ML, GM	A-2, A-4, A-1	5-10	55-80	50-75	30-75	15-70	<15	NP-4
	6-15	Gravelly loam, silt loam, gravelly sandy loam.	SM, GM, ML	A-2, A-4, A-1	0-5	55-95	50-90	30-90	15-80	<15	NP-4
	15-28	Gravelly sandy loam, very gravelly fine sandy loam, loam.	SM, GM, GW-GM, ML	A-1, A-2, A-4	0-5	40-90	35-85	20-80	10-65	<15	NP-4
	28-60	Gravelly sandy loam, very gravelly fine sandy loam, loam.	GM, GW-GM, SM, ML	A-1, A-2, A-4	0-5	40-90	35-85	20-80	10-65	<15	NP-4
29--------------- Walpole	0-3	Fine sandy loam	SM	A-2, A-4	0-5	90-100	85-100	70-100	30-50	<25	NP-3
	3-28	Fine sandy loam, sandy loam, gravelly sandy loam.	SM	A-2, A-4	0-5	85-100	60-100	40-95	25-50	---	NP
	28-60	Gravelly loamy sand, gravelly sand, sand.	SP, SM, GP, GP-GM	A-1, A-2, A-3	0-20	55-100	50-100	25-90	0-25	---	NP
31B-------------- Wilmington	0-2	Very fine sandy loam.	SM, ML, CL, SC	A-4, A-2-4, A-5	5-25	55-100	50-100	35-100	20-90	20-50	NP-10
	2-19	Silt loam, loam, gravelly fine sandy loam.	SM, ML, CL, SC	A-4, A-2-4, A-5	0-5	55-100	50-95	35-95	20-85	20-50	NP-10
	19-53	Silt loam, loam, gravelly fine sandy loam.	SM, ML, CL, SC	A-4, A-2-4	0-5	55-100	50-95	35-95	20-85	<30	NP-10
	53-60	Silt loam, loam, gravelly fine sandy loam.	SM, ML, CL, SC	A-4, A-2-4	0-10	50-100	45-95	30-95	20-85	<30	NP-10
33--------------- Rumney	0-8	Fine sandy loam	SM, ML	A-2, A-4	0	100	85-100	50-85	25-55	---	NP
	8-33	Fine sandy loam, sandy loam, loam.	SM, ML	A-2, A-4	0	100	85-100	50-95	25-75	---	NP
	33-60	Stratified silt to gravelly sand.	SM, SP-SM	A-1, A-2, A-3	0	80-100	45-95	25-70	5-30	---	NP

See footnote at end of table.

TABLE 15.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Fragments > 3 inches	Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
34C*, 34D*, 34E*:											
Lyman	0-5	Fine sandy loam	SM, ML	A-1, A-2, A-4	5-20	60-80	60-90	35-80	15-75	<30	NP-6
	5-15	Loam, channery fine sandy loam, silt loam.	SM, ML	A-1, A-2, A-4	0-20	55-90	60-90	35-85	20-80	<30	NP-4
	15	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Rock outcrop.											
37 Hadley	0-7	Silt loam	ML, CL-ML	A-4	0	100	95-100	85-100	60-90	<30	NP-9
	7-60	Silt loam, very fine sandy loam, very fine sand.	ML, CL-ML	A-4	0	100	95-100	80-100	50-90	<39	NP-13
39 Winooski	0-7	Silt loam	ML, SM	A-4	0	100	95-100	90-100	40-90	<30	NP
	7-60	Silt loam, very fine sandy loam, loamy very fine sand.	ML, SM	A-4	0	100	95-100	90-100	40-90	<30	NP
40 Limerick	0-6	Silt loam	ML	A-4	0	100	100	95-100	80-95	---	NP
	6-60	Silt loam, very fine sandy loam.	ML	A-4	0	100	100	95-100	80-95	---	NP
41D*, 41E*:											
Londonderry	0-2	Silt loam	ML, CL, SM, CL-ML	A-4, A-2-4	5-30	80-100	75-100	45-100	20-90	<30	NP-10
	2-5	Silt loam, fine sandy loam.	ML, CL, SM, CL-ML	A-4, A-2-4	0	80-100	75-100	50-100	30-90	<30	NP-10
	5	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Stratton	0-4	Silt loam	ML, CL, SM, SM-SC	A-4, A-2-4, A-2-5, A-5	5-30	80-100	75-100	50-100	30-90	20-50	NP-10
	4-7	Silt loam, fine sandy loam, very cobbly fine sandy loam.	ML, CL, GM, GW-GM	A-1, A-2, A-4, A-5	0-60	30-100	25-100	20-100	10-90	20-50	NP-10
	7-16	Silt loam, gravelly fine sandy loam, very cobbly fine sandy loam.	ML, CL, GM, GW-GM	A-1, A-2, A-4, A-5	15-60	30-90	25-85	20-85	10-75	<50	NP-10
	16	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
43B, 43C, 43D Mundal	0-3	Fine sandy loam	SM, ML, CL, SC	A-4, A-2-4, A-5	0-10	80-100	75-100	50-95	30-75	20-50	NP-10
	3-25	Loam, fine sandy loam, gravelly sandy loam.	SM, ML, CL, SC	A-4, A-2-4, A-5	0-10	80-100	75-100	45-95	20-75	20-50	NP-10
	25-57	Loam, fine sandy loam, cobbly sandy loam.	SM, ML, CL, SC	A-4, A-2-4	0-20	35-95	30-90	20-85	10-70	<30	NP-10
	57-60	Fine sandy loam, sandy loam, gravelly loamy sand.	SM, SC, GM, GC	A-4, A-2-4	0-10	50-85	45-80	10-70	5-45	<30	NP-10

See footnote at end of table.

TABLE 15.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments > 3 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct					Pct	
44B, 44C, 44D, 44E----------- Mundal	0-3	Fine sandy loam	SM, SC, ML, CL	A-4, A-2-4, A-5	5-35	80-100	75-100	50-95	30-75	20-50	NP-10
	3-25	Loam, fine sandy loam, gravelly sandy loam.	SM, SC, ML, CL	A-4, A-2-4, A-5	0-10	80-100	75-100	45-95	20-75	20-50	NP-10
	25-57	Loam, fine sandy loam, cobbly sandy loam.	SM, GC, ML, CL	A-4, A-2-4	0-20	35-95	30-90	20-85	10-70	<30	NP-10
	57-60	Fine sandy loam, sandy loam, gravelly loamy sand.	SM, SC, GM, GC	A-4, A-2-4	0-10	50-85	45-80	10-70	5-45	<30	NP-10
46B*, 46C*, 46D*, 46E*:											
Berkshire------	0-2	Fine sandy loam sandy loam.	SM, ML	A-2, A-4, A-5	15-25	80-95	70-90	45-85	25-65	<50	NP-10
	2-23	Fine sandy loam, sandy loam, gravelly loam.	SM, ML	A-2, A-4, A-5	0-15	75-95	65-85	40-75	20-60	<50	NP-10
	23-60	Fine sandy loam, sandy loam, gravelly loam.	SM, ML	A-2, A-4	0-15	75-90	65-85	40-80	20-55	<20	NP-6
Monadnock------	0-2	Fine sandy loam	SM, ML	A-2, A-4	5-15	80-100	70-90	50-85	30-60	<18	NP
	2-24	Fine sandy loam, loam, gravelly fine sandy loam.	SM, ML	A-2, A-4	0-10	80-95	70-90	50-85	30-60	<12	NP
	24-60	Loamy sand, gravelly loamy sand, gravelly loamy fine sand.	SM, SP-SM, SW-SM	A-1, A-2	0-35	65-85	50-80	20-60	10-30	---	NP
47-------------- Lupton	0-4	Hemic material---	PT	A-8	---	---	---	---	---	---	---
	4-60	Sapric material	PT	A-8	---	---	---	---	---	---	---
48B*:											
Rawsonville-----	0-1	Fine sandy loam	SM, ML, CL, CL-ML	A-4, A-5	5-35	95-100	90-100	65-100	35-90	20-50	NP-10
	1-19	Silt loam, loam, gravelly fine sandy loam.	SM, ML, CL, CL-ML	A-4, A-2-4, A-5	0-10	60-95	55-90	40-90	20-80	20-50	NP-10
	19-28	Fine sandy loam, loamy fine sand, gravelly loamy fine sand.	SM, SC, GM, GC	A-4, A-2-4	0-5	60-95	55-90	35-75	10-50	<30	NP-10
	28	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Hogback---------	0-2	Fine sandy loam	SM, ML, CL, CL-ML	A-4, A-2-4, A-5	5-35	85-100	80-95	55-90	30-70	20-50	NP-10
	2-15	Loam, fine sandy loam, gravelly fine sandy loam.	SM, ML, CL, CL-ML	A-4, A-2-4, A-5	0-20	75-100	70-95	50-90	30-70	20-50	NP-10
	15	Unweathered bedrock.	---	---	---	---	---	---	---	---	---

See footnote at end of table.

TABLE 15.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Fragments > 3 inches	Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
48C*:											
Rawsonville-----	0-1	Fine sandy loam	SM, ML, CL, CL-ML	A-4, A-5	5-35	95-100	90-100	65-100	35-90	20-50	NP-10
	1-19	Silt loam, loam, gravelly fine sandy loam.	SM, ML, CL, CL-ML	A-4, A-2-4, A-5	0-10	60-95	55-90	40-90	20-80	20-50	NP-10
	19-28	Fine sandy loam, loamy fine sand, gravelly loamy fine sand.	SM, SC, GM, GC	A-4, A-2-4	0-5	60-95	55-90	35-75	10-50	<30	NP-10
	28	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Hogback---------	0-2	Fine sandy loam	SM, ML, CL, CL-ML	A-4, A-2-4, A-5	5-35	85-100	80-95	55-90	30-70	20-50	NP-10
	2-15	Loam, fine sandy loam, gravelly fine sandy loam.	SM, ML, CL, CL-ML	A-4, A-2-4, A-5	0-20	75-100	70-95	50-90	30-70	20-50	NP-10
	15	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
48D*, 48E*:											
Rawsonville-----	0-1	Fine sandy loam	SM, ML, CL, CL-ML	A-4, A-5	5-35	95-100	90-100	65-100	35-90	20-50	NP-10
	1-19	Silt loam, loam, gravelly fine sandy loam.	SM, ML, CL, CL-ML	A-4, A-2-4, A-5	0-10	60-95	55-90	40-90	20-80	20-50	NP-10
	19-28	Fine sandy loam, loamy fine sand, gravelly loamy fine sand.	SM, SC, GM, GC	A-4, A-2-4	0-5	60-95	55-90	35-75	10-50	<30	NP-10
	28	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Hogback---------	0-2	Fine sandy loam	SM, ML, CL, CL-ML	A-4, A-2-4, A-5	5-35	85-100	80-95	55-90	30-70	20-50	NP-10
	2-15	Loam, fine sandy loam, gravelly fine sandy loam.	SM, ML, CL, CL-ML	A-4, A-2-4, A-5	0-20	75-100	70-95	50-90	30-70	20-50	NP-10
	15	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
49B*, 49C*, 49D*, 49E*:											
Houghtonville--	0-4	Fine sandy loam fine sandy loam.	SM, ML, CL, CL-ML	A-4, A-2-4, A-5	5-80	75-100	70-95	50-90	30-70	20-50	NP-10
	4-23	Silt loam, fine sandy loam, gravelly fine sandy loam.	SM, ML, CL, CL-ML	A-4, A-2-4	0-5	75-100	70-95	50-90	30-70	<30	NP-10
	23-60	Silt loam, fine sandy loam, gravelly fine sandy loam.	SM, ML, CL, GM-GC	A-4, A-2-4	0-10	65-85	60-80	40-80	25-70	<30	NP-10

See footnote at end of table.

TABLE 15.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Frag- ments > 3 inches	Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
49B*, 49C*, 49D*, 49E*:											
Rawsonville	0-1	Fine sandy loam	SM, ML, CL, CL-ML	A-4, A-5	5-80	95-100	90-100	65-100	35-90	20-50	NP-10
	1-19	Silt loam, loam, gravelly fine sandy loam.	SM, ML, CL, CL-ML	A-4, A-2-4, A-5	0-10	60-95	55-90	40-90	20-80	20-50	NP-10
	19-28	Fine sandy loam, loamy fine sand, gravelly loamy fine sand.	SM, SC, GM, GC	A-4, A-2-4	0-5	60-95	55-90	35-75	10-50	<30	NP-10
	28	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
50B, 50C, 50D, 50E: Colton	0-4	Loamy fine sand	SM, SP, GW, GM	A-1, A-2, A-3	5-20	30-80	25-75	25-60	2-25	---	NP
	4-31	Gravelly loamy sand, very gravelly sand, cobbly sand.	SM, GM, SP, GP	A-1	5-20	30-80	25-75	20-50	2-20	---	NP
	31-60	Very gravelly sand, very cobbly sand.	GP, SP, GW, SW	A-1	10-45	20-55	15-50	10-30	0-5	---	NP
52A, 52B: Sheepscot	0-6	Fine sandy loam	GM, SM, ML, CL-ML	A-1, A-2, A-4	0-5	55-95	50-90	25-85	15-60	<15	NP-5
	6-16	Very gravelly fine sandy loam, gravelly loamy sand, very gravelly coarse sand.	GP, GM, SP, SM	A-1, A-2	0-5	50-70	30-55	15-45	2-30	<15	NP-5
	16-36	Very gravelly sand, gravelly loamy sand, extremely gravelly coarse sand.	GP, GM, SP, SM	A-1	0-5	50-70	30-55	15-40	2-15	---	NP
	36-60	Extremely gravelly coarse sand, very gravelly loamy fine sand, very gravelly sand.	GP, GM, SP, SM	A-1	0-10	45-70	25-55	12-40	1-15	---	NP
56B, 56C, 56D, 56E: Monadnock	0-2	Fine sandy loam	SM, ML	A-2, A-4	5-15	80-100	70-90	50-85	30-60	<18	NP
	2-24	Fine sandy loam, loam, gravelly fine sandy loam.	SM, ML	A-2, A-4	0-10	80-95	70-90	50-85	30-60	<12	NP
	24-60	Loamy sand, gravelly loamy sand, gravelly loamy fine sand.	SM, SP-SM, SW-SM	A-1, A-2	0-35	65-85	50-80	20-60	10-30	---	NP

See footnote at end of table.

TABLE 15.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Frag-ments > 3 inches	Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
60B, 60C, 60D---- Houghtonville	0-8	Fine sandy loam	CL, ML, CL-ML, SM	A-4, A-2-4, A-5	0	75-100	70-95	50-95	30-85	20-50	NP-10
	8-23	Silt loam, fine sandy loam, gravelly fine sandy loam.	CL, ML, CL-ML, SM	A-4, A-2-4, A-5	0	75-100	70-95	50-95	30-85	20-50	NP-10
	23-60	Silt loam, fine sandy loam, gravelly fine sandy loam.	CL, ML, CL-ML, SM	A-4, A-2-4	0-10	65-85	60-80	40-80	25-70	<30	NP-10
61B, 61C, 61D, 61E------------- Houghtonville	0-4	Fine sandy loam	SM, ML, CL, CL-ML	A-4, A-2-4, A-5	5-35	75-100	70-95	50-90	30-70	20-50	NP-10
	4-23	Silt loam, fine sandy loam, gravelly fine sandy loam.	SM, ML, CL, CL-ML	A-4, A-2-4, A-5	0-5	75-100	70-95	50-90	30-70	20-50	NP-10
	23-60	Silt loam, fine sandy loam, gravelly fine sandy loam.	SM, ML, CL, CL-ML	A-4, A-2-4	0-10	65-85	60-80	40-80	25-70	<30	NP-10
62--------------- Markey	0-34	Sapric material	PT	A-8	---	---	---	---	---	---	---
	34-60	Sand, loamy sand, fine sand.	SP, SM, SP-SM	A-2, A-3	0	100	75-100	60-75	0-20	---	NP
63C*, 63D*, 63E*: Berkshire-------	0-2	Fine sandy loam	SM, ML	A-2, A-4, A-5	15-25	80-95	70-90	45-85	25-65	<50	NP-10
	2-23	Fine sandy loam, sandy loam, gravelly loam.	SM, ML	A-2, A-4, A-5	0-15	75-95	65-85	40-75	20-60	<50	NP-10
	23-60	Fine sandy loam, sandy loam, gravelly loam.	SM, ML	A-2, A-4	0-15	75-90	65-85	40-80	20-55	<20	NP-6
Tunbridge-------	0-2	Fine sandy loam	SM, ML, GM	A-4, A-2	5-25	55-100	50-95	35-95	20-85	<20	NP-2
	2-27	Silt loam, gravelly fine sandy loam, channery fine sandy loam.	SM, ML	A-4, A-5, A-2	0-15	70-100	65-95	45-95	25-85	20-50	NP-6
	27	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
64. Udifluvents											
65C*, 65D*, 65E*: Hogback---------	0-2	Fine sandy loam	SM, ML, CL, CL-ML	A-4, A-2-4, A-5	5-35	85-100	80-95	55-90	30-70	20-50	NP-10
	2-15	Loam, fine sandy loam, gravelly fine sandy loam.	SM, ML, CL, CL-ML	A-4, A-2-4, A-5	0-20	75-100	70-95	50-90	30-70	20-50	NP-10
	15	Unweathered bedrock.	---	---	---	---	---	---	---	---	---

See footnote at end of table.

TABLE 15.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Frag- ments > 3 inches	Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
65C*, 65D*, 65E*:											
Rawsonville-----	0-1	Fine sandy loam	SM, ML, CL, CL-ML	A-4, A-5	5-35	95-100	90-100	65-100	35-90	20-50	NP-10
	1-19	Silt loam, loam, gravelly fine sandy loam.	SM, ML, CL, CL-ML	A-4, A-2-4, A-5	0-10	60-95	55-90	40-90	20-80	20-50	NP-10
	19-28	Fine sandy loam, loamy fine sand, gravelly loamy fine sand.	SM, SC, GM, GC	A-4, A-2-4	0-5	60-95	55-90	35-75	10-50	<30	NP-10
	28	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
66B*, 66C*:											
Houghtonville---	0-8	Fine sandy loam	SM, ML, CL, CL-ML	A-4, A-2-4, A-5	1-15	75-100	70-95	50-90	30-70	20-50	NP-10
	8-23	Silt loam, fine sandy loam, gravelly fine sandy loam.	SM, ML, CL, CL-ML	A-4, A-2-4, A-5	0-5	75-100	70-95	50-90	30-70	20-50	NP-10
	23-60	Silt loam, fine sandy loam, gravelly fine sandy loam.	SM, ML, CL, CL-ML	A-4, A-2-4	0-10	65-85	60-80	40-80	25-70	<30	NP-10
Rawsonville-----	0-1	Fine sandy loam	SM, ML, CL, CL-ML	A-4, A-5	1-10	95-100	90-100	65-100	35-90	20-50	NP-10
	1-19	Silt loam, loam, gravelly fine sandy loam.	SM, ML, CL, CL-ML	A-4, A-2-4, A-5	0-10	60-95	55-90	40-90	20-80	20-50	NP-10
	19-28	Fine sandy loam, loamy fine sand, gravelly loamy fine sand.	SM, SC, GM, GC	A-4, A-2-4	0-5	60-95	55-90	35-75	10-50	<30	NP-10
	28	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
67B*, 67C*:											
Berkshire-------	0-8	Fine sandy loam	SM, ML	A-2, A-4	0-15	80-95	70-90	45-90	20-70	<30	NP-10
	8-23	Fine sandy loam, sandy loam, gravelly loam.	SM, ML	A-2, A-4	0-20	75-95	65-85	40-85	20-65	<30	NP-10
	23-60	Fine sandy loam, sandy loam, gravelly loam.	SM, ML	A-2, A-4	0-20	75-90	65-85	40-80	20-60	<20	NP-6
Tunbridge-------	0-8	Fine sandy loam	SM, ML, GM	A-4, A-2	0-5	55-100	50-95	35-95	20-85	<20	NP-2
	8-27	Silt loam, gravelly fine sandy loam, channery fine sandy loam.	SM, ML	A-4, A-5, A-2	0-15	70-100	65-95	45-95	25-95	20-50	NP-6
	27	Unweathered bedrock.	---	---	---	---	---	---	---	---	---

See footnote at end of table.

TABLE 15.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Fragments > 3 inches	Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
68D*:, 68E*:											
Taconic	0-2	Loam	SM, ML, CL-ML, CL	A-2, A-4, A-6	5-40	55-80	50-75	40-75	30-70	15-35	3-15
	2-19	Channery loam, very channery loam, very channery silt loam.	GM, GC, SM, GM-GC	A-1, A-2, A-4, A-6	5-15	30-60	25-55	20-55	15-50	15-30	3-15
	19	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Hubbardton	0-2	Very channery silt loam.	SM, GM, GM-GC, SM-SC	A-1, A-2, A-4	30-55	60-75	55-70	40-70	20-65	25-37	4-10
	2-6	Very channery silt loam, very flaggy fine sandy loam.	SM, GM, GM-GC, SM-SC	A-1, A-2, A-4	30-55	60-75	55-70	40-70	20-65	25-35	4-10
	6	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Rock outcrop.											
69C*:											
Macomber	0-2	Silt loam	SM, ML, CL-ML, CL	A-4, A-6	5-30	55-80	50-75	40-75	30-70	15-35	3-15
	2-34	Channery loam, very channery loam, very channery silt loam.	GM, GM-GC, GC	A-1, A-2, A-4, A-6	5-15	30-55	25-50	20-50	15-45	15-35	3-15
	34	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Taconic	0-2	Silt loam	SM, ML, CL-ML, CL	A-2, A-4, A-6	5-40	55-80	50-75	40-75	30-70	15-35	3-15
	2-19	Channery loam, very channery loam, very channery silt loam.	GM, GC, SM, GM-GC	A-1, A-2, A-4, A-6	5-15	30-60	25-55	20-55	15-50	15-30	3-15
	19	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
69D*, 69E*:											
Macomber	0-2	Silt loam loam.	SM, ML, CL-ML, CL	A-4, A-6	5-30	55-80	50-75	40-75	30-70	15-35	3-15
	2-34	Channery loam, very channery loam, very channery silt loam.	GM, GM-GC, GC	A-1, A-2, A-4, A-6	5-15	30-55	25-50	20-50	15-45	15-35	3-15
	34	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Taconic	0-2	Loam	SM, ML, CL-ML, CL	A-2, A-4, A-6	5-40	55-80	50-75	40-75	30-70	15-35	3-15
	2-19	Channery loam, very channery loam, very channery silt loam.	GM, GC, SM, GM-GC	A-1, A-2, A-4, A-6	5-15	30-60	25-55	20-55	15-50	15-30	3-15
	19	Unweathered bedrock.	---	---	---	---	---	---	---	---	---

See footnote at end of table.

TABLE 15.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Frag- ments > 3 inches	Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
70C*, 70D*, 70E*:											
Dummerston	0-3	Silt loam	ML, CL, SM, SC	A-2, A-4, A-6	5-35	60-100	55-95	40-95	20-85	<35	NP-15
	3-30	Silt loam, channery silt loam, channery fine sandy loam.	ML, CL, SM, SC	A-2, A-4, A-6	0-15	60-100	55-95	40-95	20-85	<30	NP-15
	30-60	Silt loam, channery silt loam, channery sandy loam.	ML, CL, SM, SC	A-2, A-4, A-6	0-15	50-90	45-85	30-85	20-75	<30	NP-15
Macomber	0-2	Silt loam	SM, ML, CL-ML, CL	A-4, A-6	5-30	55-80	50-75	40-75	30-70	15-35	3-15
	2-34	Channery loam, very channery loam, very channery silt loam.	GM, GM-GC, GC	A-1, A-2, A-4, A-6	5-15	30-55	25-50	20-50	15-45	15-35	3-15
	34	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
71B Dummerston	0-9	Silt loam	ML, SM, SC, CL	A-2, A-4, A-6	0-5	90-100	80-95	40-95	20-85	<35	NP-15
	9-30	Silt loam, channery silt loam, channery fine sandy loam.	ML, SM, SC, CL	A-2, A-4, A-6	0-15	60-100	55-95	40-95	20-85	<30	NP-15
	30-60	Silt loam, channery silt loam, channery sandy loam.	ML, SM, SC, CL	A-2, A-4, A-6	0-15	50-90	45-85	30-85	20-75	<30	NP-15
71C, 71D Dummerston	0-9	Silt loam	ML, SM, SC, CL	A-2, A-4, A-6	0-5	90-100	80-95	40-95	20-85	<35	NP-15
	9-30	Silt loam, channery silt loam, channery fine sandy loam.	ML, SM, SC, CL	A-2, A-4, A-6	0-15	60-100	55-95	40-95	20-85	<30	NP-15
	30-60	Silt loam, channery silt loam, channery sandy loam.	ML, SM, SC, CL	A-2, A-4, A-6	0-15	50-90	45-85	30-85	20-75	<30	NP-15
72C, 72D, 72E Dummerston	0-3	Silt loam	ML, CL, SM, SC	A-2, A-4, A-6	5-35	60-100	55-95	40-95	20-85	<35	NP-15
	3-30	Silt loam, channery silt loam, channery fine sandy loam.	ML, CL, SM, SC	A-2, A-4, A-6	0-15	60-100	55-95	40-95	20-85	<30	NP-15
	30-60	Silt loam, channery silt loam, channery sandy loam.	ML, CL, SM, SC	A-2, A-4, A-6	0-15	50-90	45-85	30-85	20-75	<30	NP-15

See footnote at end of table.

TABLE 15.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Frag-ments > 3 inches	Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
73B, 73C, 73D----Fullam	0-6	Silt loam--------	SM, SC, ML, CL	A-2, A-4, A-6	0-5	95-100	80-95	40-95	25-85	<35	NP-15
	6-22	Silt loam, channery silt loam, channery fine sandy loam.	SM, SC, ML, CL	A-2, A-4, A-6	0-15	60-100	55-95	40-95	20-85	<30	NP-15
	22-60	Silt loam, channery silt loam, channery fine sandy loam.	SM, SC, ML, CL	A-2, A-4, A-6	0-15	55-90	50-85	35-85	20-80	<30	NP-15
74B, 74C, 74D, 74E------------- Fullam	0-2	Silt loam--------	SM, SC, ML, CL	A-2, A-4, A-6	5-35	65-100	60-95	40-95	25-85	<35	NP-15
	2-22	Silt loam, channery silt loam, channery fine sandy loam.	SM, SC, ML, CL	A-2, A-4, A-6	0-15	60-100	55-95	40-95	20-85	<30	NP-15
	22-60	Silt loam, channery silt loam, channery fine sandy loam.	SM, SC, ML, CL	A-2, A-4, A-6	0-15	55-90	50-85	35-85	20-80	<30	NP-15
75B-------------- Brayton	0-4	Silt loam--------	SM, SC, ML, CL	A-2, A-4, A-6	5-35	55-100	50-95	35-95	20-85	<35	NP-15
	4-17	Silt loam, channery silt loam, channery fine sandy loam.	SM, SC, ML, CL	A-2, A-4, A-6	0-15	55-100	50-95	35-95	20-85	<30	NP-15
	17-60	Silt loam, channery silt loam, channery fine sandy loam.	SM, SC, ML, CL	A-2, A-4, A-6	0-15	50-80	45-75	30-75	30-70	<30	NP-15
76B*: Dummerston------	0-9	Silt loam--------	ML, SM, SC, CL	A-2, A-4, A-6	0-5	90-100	80-95	40-95	20-85	<35	NP-15
	9-30	Silt loam, channery silt loam, channery fine sandy loam.	ML, SM, SC, CL	A-2, A-4, A-6	0-15	60-100	55-95	40-95	20-85	<30	NP-15
	30-60	Silt loam, channery silt loam, channery sandy loam.	ML, SM, SC, CL	A-2, A-4, A-6	0-15	50-90	45-85	30-85	20-75	<30	NP-15
Macomber--------	0-9	Silt loam--------	SM, ML, CL-ML, CL	A-4, A-6	0-5	80-90	75-85	65-85	45-75	15-35	3-15
	9-34	Very slaty silt loam, very slaty loam.	GM, GM-GC, GC	A-1, A-2, A-4	5-15	30-55	25-50	20-50	15-45	15-30	3-15
	34	Unweathered bedrock.	---	---	---	---	---	---	---	---	---

See footnote at end of table.

TABLE 15.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Frag- ments > 3 inches	Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
76C*:											
Dummerston------	0-7	Silt loam--------	ML, SM, SC, CL	A-2, A-4, A-6	0-5	90-100	80-95	40-95	20-85	<35	NP-15
	7-30	Silt loam, channery silt loam, channery fine sandy loam.	ML, SM, SC, CL	A-2, A-4, A-6	0-15	60-100	55-95	40-95	20-85	<30	NP-15
	30-60	Silt loam, channery silt loam, channery sandy loam.	ML, SM, SC, CL	A-2, A-4, A-6	0-15	50-90	45-85	30-85	20-75	<30	NP-15
Macomber--------	0-6	Silt loam--------	SM, ML, CL-ML, CL	A-4, A-6	0-5	80-90	75-85	65-85	45-75	15-35	3-15
	6-34	Very slaty silt loam, very slaty loam.	GM, GM-GC, GC	A-1, A-2, A-4	5-15	30-55	25-50	20-50	15-45	15-30	3-15
	34	Unweathered bedrock.	---	---	---	---	---	---	---	---	---

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 16.--PHYSICAL AND CHEMICAL PROPERTIES OF THE SOILS

(The symbol < means less than; > means more than. Entries under "Erosion factors--T" apply to the entire profile. Entries under "Organic matter" apply only to the surface layer. Absence of an entry indicates that data were not available or were not estimated)

Soil name and map symbol	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Shrink-swell potential	Erosion factors K	Erosion factors T	Organic matter
	In	Pct	G/cc	In/hr	In/in	pH				Pct
1A, 1B, 1C, 1D---Unadilla	0-10	2-18	1.20-1.50	0.6-2.0	0.18-0.21	4.5-6.0	Low----------	0.49	3	2-7
	10-60	1-18	1.20-1.50	0.6-2.0	0.17-0.20	4.5-6.5	Low----------	0.64		
1E. Udorthents										
2A---------------Belgrade	0-8	4-15	0.95-1.15	0.6-2.0	0.18-0.25	5.6-7.3	Low----------	0.49	3	1-5
	8-26	4-15	1.10-1.40	0.6-2.0	0.16-0.20	5.6-7.3	Low----------	0.64		
	26-60	2-20	1.20-1.40	0.06-6.0	0.06-0.20	5.6-7.3	Low----------	0.64		
3B*, 3C*, 3D*, 3E*: Quonset--------	0-7	2-7	1.20-1.30	2.0-20	0.08-0.18	5.1-7.3	Low----------	0.20	3	.6-7
	7-20	1-4	1.40-1.50	2.0-20	0.04-0.07	5.1-7.3	Low----------	0.17		
	20-60	0-2	1.40-1.50	>20	0.01-0.03	5.1-6.5	Low----------	0.10		
Warwick--------	0-2	3-8	1.10-1.20	2.0-6.0	0.04-0.20	3.6-6.0	Low----------	0.17	3	1-5
	2-24	3-8	1.20-1.40	2.0-6.0	0.03-0.16	3.6-6.0	Low----------	0.24		
	24-60	0-3	1.30-1.50	>20	0.01-0.05	5.0-6.5	Low----------	0.10		
5B, 5C, 5D, 5E---Windsor	0-3	1-3	1.00-1.20	>6.0	0.08-0.12	4.5-6.0	Low----------	0.17	5	2-4
	3-14	0-3	1.30-1.55	>6.0	0.02-0.12	4.5-6.0	Low----------	0.17		
	14-60	0-2	1.40-1.65	>6.0	0.01-0.08	4.5-6.5	Low----------	0.10		
9B---------------Deerfield	0-8	2-7	0.95-1.10	2.0-6.0	0.12-0.23	5.6-7.3	Low----------	0.24	5	1-4
	8-21	1-7	1.20-1.45	6.0-20	0.01-0.13	5.6-7.3	Low----------	0.17		
	21-60	0-5	1.40-1.50	>6.0	0.01-0.08	5.6-7.3	Low----------	0.17		
10A, 10B---------Agawam	0-10	4-10	1.10-1.20	2.0-6.0	0.13-0.25	5.0-7.3	Low----------	0.28	3	1-5
	10-25	1-10	1.20-1.40	2.0-6.0	0.11-0.21	5.0-7.3	Low----------	0.37		
	25-60	1-2	1.30-1.40	6.0-20	0.01-0.09	5.0-7.3	Low----------	0.17		
11B*, 11C*, 11D*: Berkshire-------	0-8	3-10	1.10-1.15	0.6-6.0	0.10-0.22	3.6-6.0	Low----------	0.24	3	2-5
	8-23	3-10	1.15-1.30	0.6-6.0	0.10-0.20	3.6-6.0	Low----------	0.32		
	23-60	1-10	1.30-1.60	0.6-6.0	0.10-0.18	3.6-6.0	Low----------	0.24		
Monadnock-------	0-8	1-8	0.80-1.20	0.6-2.0	0.15-0.21	3.6-6.0	Low----------	0.28	3	3-8
	8-24	1-8	0.80-1.30	0.6-2.0	0.09-0.17	3.6-6.0	Low----------	0.28		
	24-60	1-5	1.30-1.60	2.0-6.0	0.04-0.08	3.6-6.0	Low----------	0.17		
12C*, 12D*, 12E*: Stratton--------	0-4	1-7	0.80-1.50	0.6-6.0	0.15-0.22	3.6-5.5	Low----------	0.43	2	4-8
	4-7	1-12	0.60-1.10	0.6-6.0	0.14-0.45	3.6-5.5	Low----------	0.64		
	7-16	1-10	0.70-1.10	0.6-6.0	0.10-0.35	3.6-5.5	Low----------	0.49		
	16	---	---	---	---	---	--------------	----		
Glebe-----------	0-8	1-7	0.80-1.00	2.0-6.0	0.15-0.22	3.6-5.5	Low----------	0.43	2	8-20
	8-25	1-12	0.60-1.00	2.0-6.0	0.35-0.45	3.6-5.5	Low----------	0.64		
	25	---	---	---	---	---	--------------	----		
16B, 16C, 16D, 16E-------------Adams	0-2	0-5	1.00-1.30	6.0-20	0.05-0.12	4.5-5.5	Low----------	0.17	5	1-4
	2-21	0-5	1.10-1.45	6.0-20	0.04-0.10	4.5-5.5	Low----------	0.17		
	21-60	0-5	1.20-1.50	>20	0.03-0.04	4.5-6.0	Low----------	0.17		

See footnote at end of table.

TABLE 16.--PHYSICAL AND CHEMICAL PROPERTIES OF THE SOILS--Continued

Soil name and map symbol	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Shrink-swell potential	Erosion factors K	Erosion factors T	Organic matter
	In	Pct	G/cc	In/hr	In/in	pH				Pct
17B, 17C---------Worden	0-2	3-10	0.70-1.00	0.6-2.0	0.15-0.25	3.6-6.0	Low-----------	0.49	2	4-8
	2-18	3-10	0.80-1.10	0.6-2.0	0.10-0.45	3.6-6.0	Low-----------	0.64		
	18-50	3-10	1.80-2.00	0.06-0.6	0.08-0.18	5.1-6.5	Low-----------	0.37		
	50-60	3-10	1.70-1.90	0.06-0.6	0.11-0.18	5.1-6.5	Low-----------	0.28		
18B--------------Worden	0-2	3-12	0.70-1.00	0.6-2.0	0.12-0.22	3.6-6.0	Low-----------	0.43	2	4-8
	2-18	3-12	0.80-1.10	0.6-2.0	0.10-0.45	3.6-6.0	Low-----------	0.64		
	18-50	3-12	1.80-2.00	0.06-0.6	0.08-0.18	5.1-6.5	Low-----------	0.37		
	50-60	3-10	1.70-1.90	0.06-0.6	0.11-0.18	5.1-6.5	Low-----------	0.28		
18C--------------Worden	0-2	3-12	0.70-1.00	0.6-2.0	0.13-0.23	3.6-6.0	Low-----------	0.49	2	4-8
	2-18	3-12	0.80-1.10	0.6-2.0	0.10-0.45	3.6-6.0	Low-----------	0.64		
	18-50	3-12	1.80-2.00	0.06-0.6	0.08-0.18	5.1-6.5	Low-----------	0.37		
	50-60	3-10	1.70-1.90	0.06-0.6	0.11-0.18	5.1-6.5	Low-----------	0.28		
18D--------------Worden	0-2	3-12	0.70-1.00	0.6-2.0	0.12-0.22	3.6-6.0	Low-----------	0.43	2	4-8
	2-18	3-12	0.80-1.10	0.6-2.0	0.10-0.45	3.6-6.0	Low-----------	0.64		
	18-50	3-12	1.80-2.00	0.06-0.6	0.08-0.18	5.1-6.5	Low-----------	0.37		
	50-60	3-10	1.70-1.90	0.06-0.6	0.11-0.18	5.1-6.5	Low-----------	0.28		
20B*, 20C*, 20D*, 20E*:										
Tunbridge------	0-2	5-9	0.80-1.20	0.6-6.0	0.11-0.20	3.6-6.0	Low-----------	0.17	2	---
	2-27	3-9	1.20-1.40	0.6-6.0	0.10-0.21	3.6-6.0	Low-----------	0.20		
	27	---	---	---	---	---	-------------	----		
Lyman----------	0-5	2-10	0.75-1.20	2.0-6.0	0.13-0.24	3.6-6.0	Low-----------	0.20	2	---
	5-15	2-10	0.90-1.40	2.0-6.0	0.08-0.28	3.6-6.0	Low-----------	0.32		
	15	---	---	---	---	---	-------------	----		
21B, 21C, 21D----Marlow	0-9	3-10	1.00-1.30	0.6-2.0	0.10-0.23	4.5-6.0	Low-----------	0.24	3	2-6
	9-30	3-10	1.30-1.60	0.6-2.0	0.06-0.20	4.5-6.0	Low-----------	0.32		
	30-60	3-10	1.70-2.05	0.06-0.6	0.05-0.12	4.5-6.0	Low-----------	0.20		
22B, 22C, 22D, 22E------------Marlow	0-2	3-10	1.00-1.30	0.6-2.0	0.10-0.23	4.5-6.0	Low-----------	0.20	3	---
	2-30	3-10	1.30-1.60	0.6-2.0	0.06-0.20	4.5-6.0	Low-----------	0.32		
	30-60	3-10	1.70-2.05	0.06-0.6	0.05-0.12	4.5-6.0	Low-----------	0.20		
23---------------Ondawa	0-6	1-9	1.15-1.40	2.0-6.0	0.12-0.26	4.5-6.5	Low-----------	0.24	5	3-7
	6-26	1-9	1.15-1.45	2.0-6.0	0.12-0.22	4.5-6.5	Low-----------	0.37		
	26-60	0-3	1.30-1.50	2.0-20	0.04-0.13	4.5-6.5	Low-----------	0.20		
24---------------Podunk	0-8	1-15	1.15-1.40	2.0-6.0	0.12-0.24	4.5-6.5	Low-----------	0.24	5	3-8
	8-30	1-12	1.15-1.45	2.0-6.0	0.12-0.18	4.5-6.5	Low-----------	0.37		
	30-60	0-6	1.30-1.50	2.0-20	0.04-0.13	4.5-6.5	Low-----------	0.20		
25B, 25C---------Westbury	0-6	3-12	0.90-1.20	0.6-2.0	0.08-0.16	5.1-6.0	Low-----------	0.32	3	2-8
	6-15	3-12	1.40-1.70	0.6-2.0	0.07-0.15	5.1-6.0	Low-----------	0.24		
	15-28	3-12	0.70-2.00	0.06-0.2	0.02-0.06	5.1-7.3	Low-----------	0.24		
	28-60	3-12	1.70-2.00	0.06-0.2	0.02-0.16	5.1-7.3	Low-----------	0.24		
26B, 26C, 26D----Westbury	0-6	3-12	0.90-1.20	0.6-2.0	0.08-0.16	3.6-6.0	Low-----------	0.24	3	2-8
	6-15	3-12	1.40-1.70	0.6-2.0	0.07-0.15	3.6-6.0	Low-----------	0.24		
	15-28	3-12	1.70-2.00	0.06-0.2	0.02-0.06	4.5-6.0	Low-----------	0.24		
	28-60	3-12	1.70-2.00	0.06-0.2	0.02-0.06	5.1-7.3	Low-----------	0.24		
29---------------Walpole	0-3	2-6	1.00-1.25	2.0-6.0	0.10-0.23	5.0-6.0	Low-----------	0.20	3	2-8
	3-28	2-6	1.30-1.55	2.0-6.0	0.07-0.18	5.0-6.0	Low-----------	0.24		
	28-60	0-2	1.40-1.65	>6.0	0.01-0.13	5.0-6.0	Low-----------	0.10		

See footnote at end of table.

TABLE 16.--PHYSICAL AND CHEMICAL PROPERTIES OF THE SOILS--Continued

Soil name and map symbol	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Shrink-swell potential	Erosion factors K	Erosion factors T	Organic matter
	In	Pct	G/cc	In/hr	In/in	pH				Pct
31B---------------- Wilmington	0-2	3-10	0.70-1.00	0.6-2.0	0.10-0.22	3.6-6.0	Low----------	0.43	3	4-8
	2-19	3-10	0.80-1.10	0.6-2.0	0.13-0.45	3.6-6.0	Low----------	0.64		
	19-53	3-10	1.80-2.00	0.06-0.6	0.08-0.20	5.1-6.5	Low----------	0.37		
	53-60	3-10	1.70-1.90	0.06-0.6	0.11-0.20	5.1-6.5	Low----------	0.28		
33---------------- Rumney	0-8	1-9	1.10-1.35	2.0-6.0	0.12-0.20	4.5-7.3	Low----------	0.24	5	4-8
	8-33	1-9	1.15-1.45	2.0-6.0	0.12-0.19	4.5-7.3	Low----------	0.37		
	33-60	0-3	1.30-1.50	>6.0	0.04-0.13	4.5-7.3	Low----------	0.20		
34C*, 34D*, 34E*: Lyman------------	0-5	2-10	0.75-1.20	2.0-6.0	0.13-0.24	3.6-6.0	Low----------	0.20	2	---
	5-15	2-10	0.90-1.40	2.0-6.0	0.08-0.28	3.6-6.0	Low----------	0.32		
	15	---	---	---	---	---	-------------	----		
Rock outcrop.										
37---------------- Hadley	0-7	4-10	1.20-1.50	0.6-2.0	0.15-0.25	6.1-7.3	Low----------	0.49	5	2-5
	7-60	2-10	1.20-1.50	0.6-6.0	0.13-0.20	6.1-7.3	Low----------	0.49		
39---------------- Winooski	0-7	5-18	1.15-1.35	0.6-6.0	0.15-0.23	4.5-7.3	Low----------	0.49	5	2-5
	7-60	2-10	1.20-1.50	0.6-6.0	0.13-0.21	4.5-7.3	Low----------	0.49		
40---------------- Limerick	0-6	4-10	1.10-1.50	0.6-2.0	0.18-0.30	5.1-7.3	Low----------	0.49	3	2-5
	6-60	2-10	1.10-1.50	0.6-2.0	0.18-0.26	5.6-7.3	Low----------	0.49		
41D*, 41E*: Londonderry------	0-2	2-7	1.10-1.30	0.6-2.0	0.10-0.22	3.6-5.5	Low----------	0.43	1	2-8
	2-5	2-7	1.10-1.30	0.6-2.0	0.14-0.22	3.6-5.5	Low----------	0.43		
	5	---	---	---	---	---	-------------	----		
Stratton---------	0-4	1-7	0.80-1.50	0.6-6.0	0.15-0.22	3.6-5.5	Low----------	0.49	2	4-8
	4-7	1-12	0.60-1.10	0.6-6.0	0.14-0.45	3.6-5.5	Low----------	0.64		
	7-16	1-10	0.70-1.10	0.6-6.0	0.10-0.35	3.6-5.5	Low----------	0.49		
	16	---	---	---	---	---	-------------	----		
43B, 43C, 43D---- Mundal	0-3	3-10	0.70-1.00	0.6-2.0	0.13-0.25	3.6-6.0	Low----------	0.49	3	4-8
	3-25	3-10	0.80-1.10	0.6-2.0	0.13-0.45	3.6-6.0	Low----------	0.64		
	25-57	3-10	1.80-2.00	0.06-0.6	0.06-0.10	5.1-6.5	Low----------	0.37		
	57-60	3-10	1.70-1.90	0.06-0.6	0.08-0.15	5.1-6.5	Low----------	0.28		
44B, 44C, 44D, 44E-------------- Mundal	0-3	3-10	0.70-1.00	0.6-2.0	0.10-0.22	3.6-6.0	Low----------	0.43	3	---
	3-25	3-10	0.80-1.10	0.6-2.0	0.13-0.45	3.6-6.0	Low----------	0.64		
	25-57	3-10	1.80-2.00	0.06-0.6	0.06-0.10	5.1-6.5	Low----------	0.37		
	57-60	3-10	1.50-1.80	0.06-0.6	0.08-0.15	5.1-6.5	Low----------	0.28		
46B*, 46C*, 46D*, 46E*: Berkshire------	0-2	3-10	1.10-1.15	0.6-6.0	0.06-0.22	3.6-6.0	Low----------	0.20	3	2-5
	2-23	3-10	1.15-1.30	0.6-6.0	0.10-0.20	3.6-6.0	Low----------	0.32		
	23-60	1-10	1.30-1.60	0.6-6.0	0.10-0.18	3.6-6.0	Low----------	0.24		
Monadnock------	0-2	1-8	0.80-1.20	0.6-2.0	0.10-0.20	3.6-6.0	Low----------	0.24	3	---
	2-24	1-8	0.80-1.30	0.6-2.0	0.09-0.17	3.6-6.0	Low----------	0.28		
	24-60	1-5	1.30-1.60	2.0-6.0	0.04-0.08	3.6-6.0	Low----------	0.17		
47---------------- Lupton	0-4	---	0.10-0.35	0.2-6.0	0.35-0.45	5.6-7.3	-------------	----	2	70-90
	4-60	---	0.10-0.35	0.2-6.0	0.35-0.45	5.1-7.3	-------------	----		

See footnote at end of table.

TABLE 16.--PHYSICAL AND CHEMICAL PROPERTIES OF THE SOILS--Continued

Soil name and map symbol	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Shrink-swell potential	Erosion factors K	Erosion factors T	Organic matter
	In	Pct	G/cc	In/hr	In/in	pH				Pct
48B*:										
Rawsonville-----	0-1	3-10	0.70-1.00	0.6-6.0	0.13-0.22	3.6-5.5	Low----------	0.43	2	---
	1-19	3-10	0.70-1.00	0.6-6.0	0.13-0.45	3.6-5.5	Low----------	0.64		
	19-28	3-10	0.80-1.10	0.6-6.0	0.07-0.17	3.6-5.5	Low----------	0.28		
	28	---	---	---	---	---	-------------	----		
Hogback---------	0-2	3-12	0.60-1.00	2.0-6.0	0.13-0.22	3.6-5.5	Low----------	0.43	2	---
	2-15	3-12	0.60-1.00	2.0-6.0	0.13-0.45	3.6-5.5	Low----------	0.64		
	15	---	---	---	---	---	-------------	----		
48C*:										
Rawsonville-----	0-1	3-10	0.70-1.00	0.6-6.0	0.13-0.22	3.6-5.5	Low----------	0.43	2	---
	1-19	3-10	0.70-1.00	0.6-6.0	0.13-0.45	3.6-5.5	Low----------	0.64		
	19-28	3-10	0.80-1.10	0.6-6.0	0.07-0.17	3.6-5.5	Low----------	0.28		
	28	---	---	---	---	---	-------------	----		
Hogback---------	0-2	3-12	0.60-1.00	2.0-6.0	0.13-0.22	3.6-5.5	Low----------	0.43	2	---
	2-15	3-12	0.60-1.00	2.0-6.0	0.13-0.45	3.6-5.5	Low----------	0.64		
	15	---	---	---	---	---	-------------	----		
48D*, 48E*:										
Rawsonville-----	0-1	3-10	0.70-1.00	0.6-6.0	0.13-0.22	3.6-5.5	Low----------	0.43	2	---
	1-19	3-10	0.70-1.00	0.6-6.0	0.13-0.45	3.6-5.5	Low----------	0.64		
	19-28	3-10	0.80-1.10	0.6-6.0	0.07-0.17	3.6-5.5	Low----------	0.28		
	28	---	---	---	---	---	-------------	----		
Hogback---------	0-2	3-12	0.60-1.00	2.0-6.0	0.13-0.22	3.6-5.5	Low----------	0.43	2	---
	2-15	3-12	0.60-1.00	2.0-6.0	0.13-0.45	3.6-5.5	Low----------	0.64		
	15	---	---	---	---	---	-------------	----		
49B*, 49C*, 49D*, 49E*:										
Houghtonville--	0-4	3-10	0.70-1.00	0.6-6.0	0.09-0.21	3.6-6.0	Low----------	0.37	---	---
	4-23	3-10	0.80-1.10	0.6-6.0	0.13-0.45	3.6-6.0	Low----------	0.64		
	23-60	3-10	1.50-1.80	0.6-6.0	0.08-0.15	3.6-6.0	Low----------	0.28		
Rawsonville----	0-1	3-10	0.70-1.00	0.6-6.0	0.12-0.21	3.6-5.5	Low----------	0.37	2	---
	1-19	3-10	0.70-1.00	0.6-6.0	0.13-0.45	3.6-5.5	Low----------	0.64		
	19-28	3-10	0.80-1.10	0.6-6.0	0.07-0.17	3.6-5.5	Low----------	0.28		
	28	---	---	---	---	---	-------------	----		
50B, 50C, 50D, 50E------------- Colton	0-4	1-5	1.10-1.40	>6.0	0.03-0.07	3.6-5.0	Low----------	0.17	3	3-8
	4-31	0-5	1.25-1.55	>6.0	0.02-0.05	4.5-5.5	Low----------	0.17		
	31-60	0-3	1.45-1.65	>20	0.01-0.02	4.5-6.0	Low----------	0.17		
52A, 52B--------- Sheepscot	0-6	3-5	1.00-1.30	2.0-6.0	0.11-0.21	5.1-7.3	Low----------	0.17	3	2-6
	6-16	1-5	1.21-1.47	2.0-6.0	0.06-0.15	5.1-7.3	Low----------	0.10		
	16-36	0-3	1.45-1.70	>6.0	0.02-0.09	5.1-7.3	Low----------	0.10		
	36-60	0-3	1.45-1.70	>6.0	0.01-0.06	5.1-7.3	Low----------	0.10		
56B, 56C, 56D, 56E------------- Monadnock	0-2	1-8	0.80-1.20	0.6-2.0	0.10-0.20	3.6-6.0	Low----------	0.24	3	---
	2-24	1-8	0.80-1.30	0.6-2.0	0.09-0.17	3.6-6.0	Low----------	0.28		
	24-60	1-5	1.30-1.60	2.0-6.0	0.04-0.08	3.6-6.0	Low----------	0.17		
60B, 60C, 60D---- Houghtonville	0-8	3-10	0.70-1.00	0.6-6.0	0.13-0.25	3.6-6.0	Low----------	0.49	3	4-8
	8-23	3-10	0.80-1.10	0.6-6.0	0.13-0.45	3.6-6.0	Low----------	0.64		
	23-60	3-10	1.50-1.80	0.6-6.0	0.10-0.15	3.6-6.0	Low----------	0.28		

See footnote at end of table.

TABLE 16.--PHYSICAL AND CHEMICAL PROPERTIES OF THE SOILS--Continued

Soil name and map symbol	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Shrink-swell potential	Erosion factors K	Erosion factors T	Organic matter
	In	Pct	G/cc	In/hr	In/in	pH				Pct
61B, 61C, 61D, 61E----------- Houghtonville	0-4	3-10	0.70-1.00	0.6-6.0	0.10-0.22	3.6-6.0	Low----------	0.43	3	---
	4-23	3-10	0.80-1.10	0.6-6.0	0.13-0.45	3.6-6.0	Low----------	0.64		
	23-60	3-10	1.50-1.80	0.6-6.0	0.08-0.15	3.6-6.0	Low----------	0.28		
62--------------- Markey	0-34	---	0.15-0.45	0.2-6.0	0.35-0.45	5.6-7.3	Low----------	----	2	55-85
	34-60	0-10	1.40-1.65	6.0-20	0.03-0.08	5.6-7.3	Low----------	----		
63C*, 63D*, 63E*:										
Berkshire-------	0-2	3-10	1.10-1.15	0.6-6.0	0.06-0.22	3.6-6.0	Low----------	0.20	3	2-5
	2-23	3-10	1.15-1.30	0.6-6.0	0.10-0.20	3.6-6.0	Low----------	0.32		
	23-60	1-10	1.30-1.60	0.6-6.0	0.10-0.18	3.6-6.0	Low----------	0.24		
Tunbridge-------	0-2	5-9	0.80-1.20	0.6-6.0	0.11-0.20	3.6-6.0	Low----------	0.17	2	---
	2-27	3-9	1.20-1.40	0.6-6.0	0.10-0.21	3.6-6.0	Low----------	0.20		
	27	---	---	---	---	---	-------------	----		
64. Udifluvents										
65C*, 65D*, 65E*:										
Hogback---------	0-2	3-12	0.60-1.00	2.0-6.0	0.13-0.22	3.6-5.5	Low----------	0.43	2	---
	2-15	3-12	0.60-1.00	2.0-6.0	0.13-0.45	3.6-5.5	Low----------	0.64		
	15	---	---	---	---	---	-------------	----		
Rawsonville-----	0-1	3-10	0.70-1.00	0.6-6.0	0.13-0.22	3.6-5.5	Low----------	0.43	2	---
	1-19	3-10	0.70-1.00	0.6-6.0	0.13-0.45	3.6-5.5	Low----------	0.64		
	19-28	3-10	0.80-1.10	0.6-6.0	0.07-0.17	3.6-5.5	Low----------	0.28		
	28	---	---	---	---	---	-------------	----		
66B*, 66C*:										
Houghtonville---	0-8	3-10	0.70-1.00	0.6-6.0	0.11-0.23	3.6-6.0	Low----------	0.49	3	4-8
	8-23	3-10	0.80-1.10	0.6-6.0	0.13-0.45	3.6-6.0	Low----------	0.64		
	23-60	3-10	1.50-1.80	0.6-6.0	0.08-0.15	3.6-6.0	Low----------	0.28		
Rawsonville-----	0-1	3-10	0.70-1.00	0.6-6.0	0.14-0.23	3.6-5.5	Low----------	0.49	2	4-8
	1-19	3-10	0.70-1.00	0.6-6.0	0.13-0.45	3.6-5.5	Low----------	0.64		
	19-28	3-10	0.80-1.10	0.6-6.0	0.07-0.17	3.6-5.5	Low----------	0.28		
	28	---	---	---	---	---	-------------	----		
67B*, 67C*:										
Berkshire-------	0-8	3-10	1.10-1.15	0.6-6.0	0.10-0.22	3.6-6.0	Low----------	0.24	3	2-5
	8-23	3-10	1.15-1.30	0.6-6.0	0.10-0.20	3.6-6.0	Low----------	0.32		
	23-60	1-10	1.30-1.60	0.6-6.0	0.10-0.18	3.6-6.0	Low----------	0.24		
Tunbridge-------	0-8	5-9	0.80-1.20	0.6-6.0	0.14-0.23	3.6-6.0	Low----------	0.20	2	2-4
	8-27	3-9	1.20-1.40	0.6-6.0	0.10-0.21	3.6-6.0	Low----------	0.20		
	27	---	---	---	---	---	-------------	----		
68D*, 68E*:										
Taconic---------	0-2	10-27	1.10-1.40	0.6-6.0	0.10-0.17	4.5-5.5	Low----------	0.24	2	2-6
	2-19	10-27	1.20-1.50	0.6-6.0	0.04-0.11	4.5-5.5	Low----------	0.24		
	19	---	---	---	---	---	-------------	----		
Hubbardton------	0-2	3-18	1.10-1.40	0.6-6.0	0.08-0.15	4.5-5.5	Low----------	0.24	1	---
	2-6	3-18	1.10-1.40	0.6-6.0	0.07-0.12	4.5-5.5	Low----------	0.20		
	6	---	---	---	---	---	-------------	----		
Rock outcrop.										

See footnote at end of table.

TABLE 16.--PHYSICAL AND CHEMICAL PROPERTIES OF THE SOILS--Continued

Soil name and map symbol	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Shrink-swell potential	Erosion factors K	Erosion factors T	Organic matter
	In	Pct	G/cc	In/hr	In/in	pH				Pct
69C*:										
Macomber--------	0-2	10-27	1.10-1.40	0.6-2.0	0.09-0.15	4.5-5.5	Low----------	0.24	3	2-6
	2-34	10-27	1.20-1.50	0.6-2.0	0.04-0.11	4.5-5.5	Low----------	0.24		
	34	---	---	---	---	---	-------------	-----		
Taconic---------	0-2	10-27	1.10-1.40	0.6-6.0	0.09-0.15	4.5-5.5	Low----------	0.24	2	2-6
	2-19	10-27	1.20-1.50	0.6-6.0	0.04-0.11	4.5-5.5	Low----------	0.24		
	19	---	---	---	---	---	-------------	-----		
69D*, 69E*:										
Macomber--------	0-2	10-27	1.10-1.40	0.6-2.0	0.09-0.15	4.5-5.5	Low----------	0.24	3	2-6
	2-34	10-27	1.20-1.50	0.6-2.0	0.04-0.11	4.5-5.5	Low----------	0.24		
	34	---	---	---	---	---	-------------	-----		
Taconic---------	0-2	10-27	1.10-1.40	0.6-6.0	0.09-0.15	4.5-5.5	Low----------	0.24	2	2-6
	2-19	10-27	1.20-1.50	0.6-6.0	0.04-0.11	4.5-5.5	Low----------	0.24		
	19	---	---	---	---	---	-------------	-----		
70C*, 70D*, 70E*:										
Dummerston------	0-3	2-10	1.00-1.20	0.6-2.0	0.11-0.21	4.5-6.0	Low----------	0.28	3	2-4
	3-30	2-10	1.20-1.40	0.6-2.0	0.10-0.21	4.5-6.0	Low----------	0.28		
	30-60	2-10	1.40-1.60	0.6-2.0	0.07-0.20	4.5-6.0	Low----------	0.28		
Macomber--------	0-2	10-27	1.10-1.40	0.6-2.0	0.09-0.15	4.5-5.5	Low----------	0.24	3	2-6
	2-34	10-27	1.20-1.50	0.6-2.0	0.04-0.11	4.5-5.5	Low----------	0.24		
	34	---	---	---	---	---	-------------	-----		
71B-------------- Dummerston	0-9	2-10	1.00-1.20	0.6-2.0	0.14-0.24	4.5-6.0	Low----------	0.32	3	2-4
	9-30	2-10	1.20-1.40	0.6-2.0	0.10-0.21	4.5-6.0	Low----------	0.28		
	30-60	2-10	1.40-1.60	0.6-2.0	0.07-0.20	4.5-6.0	Low----------	0.28		
71C, 71D--------- Dummerston	0-9	2-10	1.00-1.20	0.6-2.0	0.14-0.24	4.5-6.0	Low----------	0.32	3	2-4
	9-30	2-10	1.20-1.40	0.6-2.0	0.10-0.21	4.5-6.0	Low----------	0.28		
	30-60	2-10	1.40-1.60	0.6-2.0	0.07-0.20	4.5-6.0	Low----------	0.28		
72C, 72D, 72E---- Dummerston	0-3	2-10	1.00-1.20	0.6-2.0	0.11-0.21	4.5-6.0	Low----------	0.28	3	2-4
	3-30	2-10	1.20-1.40	0.6-2.0	0.10-0.21	4.5-6.0	Low----------	0.28		
	30-60	2-10	1.40-1.60	0.6-2.0	0.07-0.20	4.5-6.0	Low----------	0.28		
73B, 73C, 73D---- Fullam	0-6	2-10	1.00-1.20	0.6-2.0	0.13-0.23	4.5-6.0	Low----------	0.32	3	2-4
	6-22	2-10	1.20-1.40	0.6-2.0	0.10-0.20	4.5-6.0	Low----------	0.37		
	22-60	2-10	1.80-2.00	0.06-0.2	0.09-0.20	4.5-6.0	Low----------	0.28		
74B, 74C, 74D, 74E------------ Fullam	0-2	2-10	1.00-1.20	0.6-2.0	0.10-0.20	4.5-6.0	Low----------	0.20	3	2-4
	2-22	2-10	1.20-1.40	0.6-2.0	0.10-0.20	4.5-6.0	Low----------	0.37		
	22-60	2-10	1.80-2.00	0.06-0.2	0.09-0.20	4.5-6.0	Low----------	0.28		
75B-------------- Brayton	0-4	2-10	1.00-1.20	0.6-2.0	0.10-0.20	5.1-6.0	Low----------	0.20	3	2-8
	4-17	2-10	1.20-1.40	0.6-2.0	0.10-0.20	5.1-6.0	Low----------	0.37		
	17-60	2-10	1.80-2.00	0.06-0.2	0.09-0.20	5.1-6.0	Low----------	0.28		
76B*:										
Dummerston------	0-9	2-10	1.00-1.20	0.6-2.0	0.14-0.24	4.5-6.0	Low----------	0.32	3	2-4
	9-30	2-10	1.20-1.40	0.6-2.0	0.10-0.21	4.5-6.0	Low----------	0.28		
	30-60	2-10	1.40-1.60	0.6-2.0	0.07-0.20	4.5-6.0	Low----------	0.28		
Macomber--------	0-9	10-27	1.10-1.40	0.6-2.0	0.15-0.20	4.5-5.5	Low----------	0.32	3	2-6
	9-26	10-27	1.20-1.50	0.6-2.0	0.04-0.11	4.5-5.5	Low----------	0.24		
	26	---	---	---	---	---	-------------	-----		

See footnote at end of table.

TABLE 16.--PHYSICAL AND CHEMICAL PROPERTIES OF THE SOILS--Continued

Soil name and map symbol	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Shrink-swell potential	Erosion factors		Organic matter
								K	T	
	In	Pct	G/cc	In/hr	In/in	pH				Pct
76C*:										
Dummerston------	0-9	2-10	1.00-1.20	0.6-2.0	0.14-0.24	4.5-6.0	Low----------	0.32	3	2-4
	9-30	2-10	1.20-1.40	0.6-2.0	0.10-0.21	4.5-6.0	Low----------	0.28		
	30-60	2-10	1.40-1.60	0.6-2.0	0.07-0.20	4.5-6.0	Low----------	0.28		
Macomber--------	0-6	10-27	1.10-1.40	0.6-2.0	0.15-0.20	4.5-5.5	Low----------	0.32	3	2-6
	6-26	10-27	1.20-1.50	0.6-2.0	0.04-0.11	4.5-5.5	Low----------	0.24		
	26	---	---	---	---	---	-------------	----		

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 17.--SOIL AND WATER FEATURES

("Flooding" and "water table" and terms such as "brief," "occasional", "apparent," and "perched" are explained in the text. The symbol < means less than; > means more than. Absence of an entry indicates that the feature is not a concern or that data were not estimated)

Soil name and map symbol	Hydrologic group	Flooding			High water table			Bedrock	Potential frost action	Risk of corrosion	
		Frequency	Duration	Months	Depth	Kind	Months	Depth		Uncoated steel	Concrete
					Ft			In			
1A, 1B, 1C, 1D---- Unadilla	B	None--------	---	---	>6.0	---	---	>60	High--------	Low------	Moderate.
1E---------------- Udorthents	B	None--------	---	---	>6.0	---	---	>60	High--------	Low------	Moderate.
2A---------------- Belgrade	B	None--------	---	---	1.5-3.5	Apparent	Nov-Apr	>60	High--------	Moderate	Moderate.
3B*, 3C*, 3D*, 3E*:											
Quonset----------	A	None--------	---	---	>6.0	---	---	>60	Low---------	Low------	High.
Warwick----------	A	None--------	---	---	>6.0	---	---	>60	Low---------	Low------	High.
5B, 5C, 5D, 5E---- Windsor	A	None--------	---	---	>6.0	---	---	>60	Low---------	Low------	High.
9B---------------- Deerfield	B	None--------	---	---	1.5-3.0	Apparent	Dec-Apr	>60	Moderate----	Low------	High.
10A, 10B---------- Agawam	B	None--------	---	---	>6.0	---	---	>60	Low---------	Low------	High.
11B*, 11C*, 11D*:											
Berkshire--------	B	None--------	---	---	>6.0	---	---	>60	Moderate----	Low------	High.
Monadnock--------	B	None--------	---	---	>6.0	---	---	>60	Low---------	Low------	High.
12C*, 12D*, 12E*:											
Stratton---------	C	None--------	---	---	>6.0	---	---	10-20	High--------	High-----	High.
Glebe------------	C	None--------	---	---	>6.0	---	---	20-40	High--------	High-----	High.

See footnote at end of table.

TABLE 17.--SOIL AND WATER FEATURES--Continued

Soil name and map symbol	Hydrologic group	Flooding			High water table			Bedrock	Potential frost action	Risk of corrosion	
		Frequency	Duration	Months	Depth	Kind	Months	Depth		Uncoated steel	Concrete
					Ft			In			
16B, 16C, 16D, 16E Adams	A	None	---	---	>6.0	---	---	>60	Low	Low	High.
17B, 17C, 18B, 18C, 18D Worden	C	None	---	---	1.0-1.5	Perched	Sep-May	>60	High	High	High.
20B*, 20C*, 20D*, 20E*:											
Tunbridge	C	None	---	---	>6.0	---	---	20-40	Moderate	Low	Moderate.
Lyman	C/D	None	---	---	>6.0	---	---	10-20	Moderate	Low	High.
21B, 21C, 21D, 22B, 22C, 22D, 22E Marlow	C	None	---	---	2.0-3.5	Perched	Mar-Apr	>60	Moderate	Low	Moderate.
23 Ondawa	B	Occasional	Brief	Nov-Apr	>6.0	---	---	>60	Moderate	Low	Moderate.
24 Podunk	B	Occasional	Brief	Nov-Apr	1.5-3.0	Apparent	Nov-May	>60	High	Moderate	Moderate.
25B, 25C, 26B, 26C, 26D Westbury	C	None	---	---	0.5-1.5	Perched	Jan-Apr	>60	High	Moderate	High.
29 Walpole	C	None	---	---	0-1.0	Apparent	Nov-Apr	>60	High	Low	High.
31B Wilmington	D	None	---	---	0-1.0	Perched	Sep-May	>60	High	High	High.
33 Rumney	C	Frequent	Brief	Oct-May	0-1.5	Apparent	Nov-May	>60	High	High	High.

See footnote at end of table.

TABLE 17.--SOIL AND WATER FEATURES--Continued

Soil name and map symbol	Hydrologic group	Flooding			High water table			Bedrock	Potential frost action	Risk of corrosion	
		Frequency	Duration	Months	Depth	Kind	Months	Depth		Uncoated steel	Concrete
					Ft			In			
34C*, 34D*, 34E*:											
Lyman-----------	C/D	None--------	---	---	>6.0	---	---	10-20	Moderate----	Low------	High.
Rock outcrop.											
37---------------- Hadley	B	Occasional	Brief-----	Feb-Apr	4.0-6.0	Apparent	Nov-Apr	>60	High--------	Low------	Moderate.
39---------------- Winooski	B	Occasional	Brief-----	Feb-Apr	1.5-3.0	Apparent	Nov-Apr	>60	High--------	Moderate	Moderate.
40---------------- Limerick	C	Frequent----	Brief-----	Jan-Jun	0.5-1.5	Apparent	Nov-Jun	>60	High--------	High-----	Low.
41D*, 41E*:											
Londonderry------	C/D	None--------	---	---	>6.0	---	---	2-10	Moderate----	Low------	High.
Stratton---------	C	None--------	---	---	>6.0	---	---	10-20	High--------	High-----	High.
43B, 43C, 43D, 44B, 44C, 44D, 44E------------- Mundal	C	None--------	---	---	1.5-2.5	Perched	Sep-May	>60	High--------	High-----	High.
46B*, 46C*, 46D*, 46E*:											
Berkshire-------	B	None--------	---	---	>6.0	---	---	>60	Moderate----	Low------	High.
Monadnock-------	B	None--------	---	---	>6.0	---	---	>60	Low---------	Low------	High.
47---------------- Lupton	A/D	None--------	---	---	+1-1.0	Apparent	Sep-May	>60	High--------	High-----	Low.
48B*, 48C*, 48D*, 48E*:											
Rawsonville-----	C	None--------	---	---	>6.0	---	---	20-40	High--------	High-----	High.
Hogback---------	B	None--------	---	---	>6.0	---	---	10-20	High--------	High-----	High.

See footnote at end of table.

TABLE 17.--SOIL AND WATER FEATURES--Continued

Soil name and map symbol	Hydrologic group	Flooding			High water table			Bedrock	Potential frost action	Risk of corrosion	
		Frequency	Duration	Months	Depth	Kind	Months	Depth		Uncoated steel	Concrete
					Ft			In			
49B*, 49C*, 49D*, 49E*:											
Houghtonville---	C	None--------	---	---	>6.0	---	---	>60	High--------	High-----	High.
Rawsonville-----	C	None--------	---	---	>6.0	---	---	20-40	High--------	High-----	High.
50B, 50C, 50D, 50E-------------- Colton	A	None--------	---	---	>6.0	---	---	>60	Low---------	Low------	High.
52A, 52B---------- Sheepscot	B	None--------	---	---	1.5-2.5	Apparent	Nov-May	>60	Low---------	Low------	High.
56B, 56C, 56D, 56E-------------- Monadnock	B	None--------	---	---	>6.0	---	---	>60	Low---------	Low------	High.
60B, 60C, 60D, 61B, 61C, 61D, 61E-------------- Houghtonville	C	None--------	---	---	>6.0	---	---	>60	High--------	High-----	High.
62---------------- Markey	A/D	None--------	---	---	+1-1.0	Apparent	Nov-Jun	>60	High--------	High-----	Low.
63C*, 63D*, 63E*:											
Berkshire--------	B	None--------	---	---	>6.0	---	---	>60	Moderate----	Low------	High.
Tunbridge--------	C	None--------	---	---	>6.0	---	---	20-40	Moderate----	Low------	Moderate.
64. Udifluvents											
65C*, 65D*, 65E*:											
Hogback----------	B	None--------	---	---	>6.0	---	---	10-20	High--------	High-----	High.
Rawsonville------	C	None--------	---	---	>6.0	---	---	20-40	High--------	High-----	High.

See footnote at end of table.

TABLE 17.--SOIL AND WATER FEATURES--Continued

Soil name and map symbol	Hydrologic group	Flooding			High water table			Bedrock	Potential frost action	Risk of corrosion	
		Frequency	Duration	Months	Depth	Kind	Months	Depth		Uncoated steel	Concrete
					Ft			In			
66B*, 66C*:											
Houghtonville	C	None	---	---	>6.0	---	---	>60	High	High	High.
Rawsonville	C	None	---	---	>6.0	---	---	20-40	High	High	High.
67B*, 67C*:											
Berkshire	B	None	---	---	>6.0	---	---	>60	Moderate	Low	High.
Tunbridge	C	None	---	---	>6.0	---	---	20-40	Moderate	Low	Moderate.
68D*, 68E*:											
Taconic	C/D	None	---	---	>6.0	---	---	10-20	Moderate	Low	High.
Hubbardton	C	None	---	---	>6.0	---	---	2-10	Moderate	Low	High.
Rock outcrop.											
69C*, 69D*, 69E*:											
Macomber	C	None	---	---	>6.0	---	---	20-40	Moderate	Low	High.
Taconic	C/D	None	---	---	>6.0	---	---	10-20	Moderate	Low	High.
70C*, 70D*, 70E*:											
Dummerston	B	None	---	---	>6.0	---	---	>60	Moderate	Low	Moderate.
Macomber	C	None	---	---	>6.0	---	---	20-40	Moderate	Low	High.
71B, 71C, 71D, 72C, 72D, 72E Dummerston	B	None	---	---	>6.0	---	---	>60	Moderate	Low	Moderate.
73B, 73C, 73D Fullam	C	None	---	---	1.5-2.5	Perched	Nov-Apr	>60	Moderate	Moderate	High.
74B, 74C, 74D, 74E Fullam	C	None	---	---	1.5-2.5	Perched	Nov-Apr	>60	Moderate	Moderate	High.

See footnote at end of table.

TABLE 17.--SOIL AND WATER FEATURES--Continued

Soil name and map symbol	Hydrologic group	Flooding			High water table			Bedrock	Potential frost action	Risk of corrosion	
		Frequency	Duration	Months	Depth	Kind	Months	Depth		Uncoated steel	Concrete
					Ft			In			
75B: Brayton	C	None	---	---	0-1.5	Perched	Oct-May	>60	High	High	High.
76B*, 76C*:											
Dummerston	B	None	---	---	>6.0	---	---	>60	Moderate	Low	Moderate.
Macomber	C	None	---	---	>6.0	---	---	20-40	Moderate	Low	High.

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 18.--CLASSIFICATION OF THE SOILS

Soil name	Family or higher taxonomic class
Adams	Sandy, mixed, frigid Typic Haplorthods
Agawam	Coarse-loamy over sandy or sandy-skeletal, mixed, mesic Typic Dystrochrepts
Belgrade	Coarse-silty, mixed, mesic Aquic Dystric Eutrochrepts
Berkshire	Coarse-loamy, mixed, frigid Typic Haplorthods
Brayton	Coarse-loamy, mixed, nonacid, frigid Aeric Haplaquepts
Colton	Sandy-skeletal, mixed, frigid Typic Haplorthods
Deerfield	Mixed, mesic Aquic Udipsamments
Dummerston	Coarse-loamy, mixed, frigid Typic Dystrochrepts
Fullam	Coarse-loamy, mixed, frigid Aquic Dystrochrepts
Glebe	Thixotropic Humic Cryorthods
Hadley	Coarse-silty, mixed, nonacid, mesic Typic Udifluvents
Hogback	Loamy, mixed, frigid Lithic Haplorthods
Houghtonville	Coarse-loamy, mixed, frigid Typic Haplorthods
Hubbardton	Loamy-skeletal, mixed, acid, frigid Lithic Udorthents
Limerick	Coarse-silty, mixed, nonacid, mesic Typic Fluvaquents
Londonderry	Loamy, mixed, acid Lithic Cryorthents
Lupton	Euic Typic Borosaprists
Lyman	Loamy, mixed, frigid Lithic Haplorthods
Macomber	Loamy-skeletal, mixed, frigid Typic Dystrochrepts
Markey	Sandy or sandy-skeletal, mixed, euic Terric Borosaprists
Marlow	Coarse-loamy, mixed, frigid Typic Haplorthods
Monadnock	Coarse-loamy over sandy or sandy-skeletal, mixed, frigid Typic Haplorthods
Mundal	Coarse-loamy, mixed, frigid Typic Haplorthods
Ondawa	Coarse-loamy, mixed, frigid Fluventic Dystrochrepts
Podunk	Coarse-loamy, mixed, frigid Fluvaquentic Dystrochrepts
Quonset	Sandy-skeletal, mixed, mesic Typic Udorthents
Rawsonville	Coarse-loamy, mixed, frigid Typic Haplorthods
Rumney	Coarse-loamy, mixed, nonacid, frigid Aeric Fluvaquents
Sheepscot	Sandy-skeletal, mixed, frigid Typic Haplorthods
Stratton	Thixotropic-skeletal Humic Lithic Cryorthods
Taconic	Loamy-skeletal, mixed, frigid Lithic Dystrochrepts
Tunbridge	Coarse-loamy, mixed, frigid Typic Haplorthods
Udifluvents	Udifluvents
Udorthents	Udorthents
Unadilla	Coarse-silty, mixed, mesic Typic Dystrochrepts
Walpole	Sandy, mixed, mesic Aeric Haplaquepts
Warwick	Loamy-skeletal, mixed, mesic Typic Dystrochrepts
*Westbury	Coarse-loamy, mixed, frigid Typic Fragiaquods
Wilmington	Coarse-loamy, mixed, frigid Typic Haplaquods
Windsor	Mixed, mesic Typic Udipsamments
Winooski	Coarse-silty, mixed, nonacid, mesic Aquic Udifluvents
Worden	Coarse-loamy, mixed, frigid Aquic Haplorthods

*The soil is a taxadjunct to the series. See text for a description of those characteristics of the soil that are outside the range of the series.

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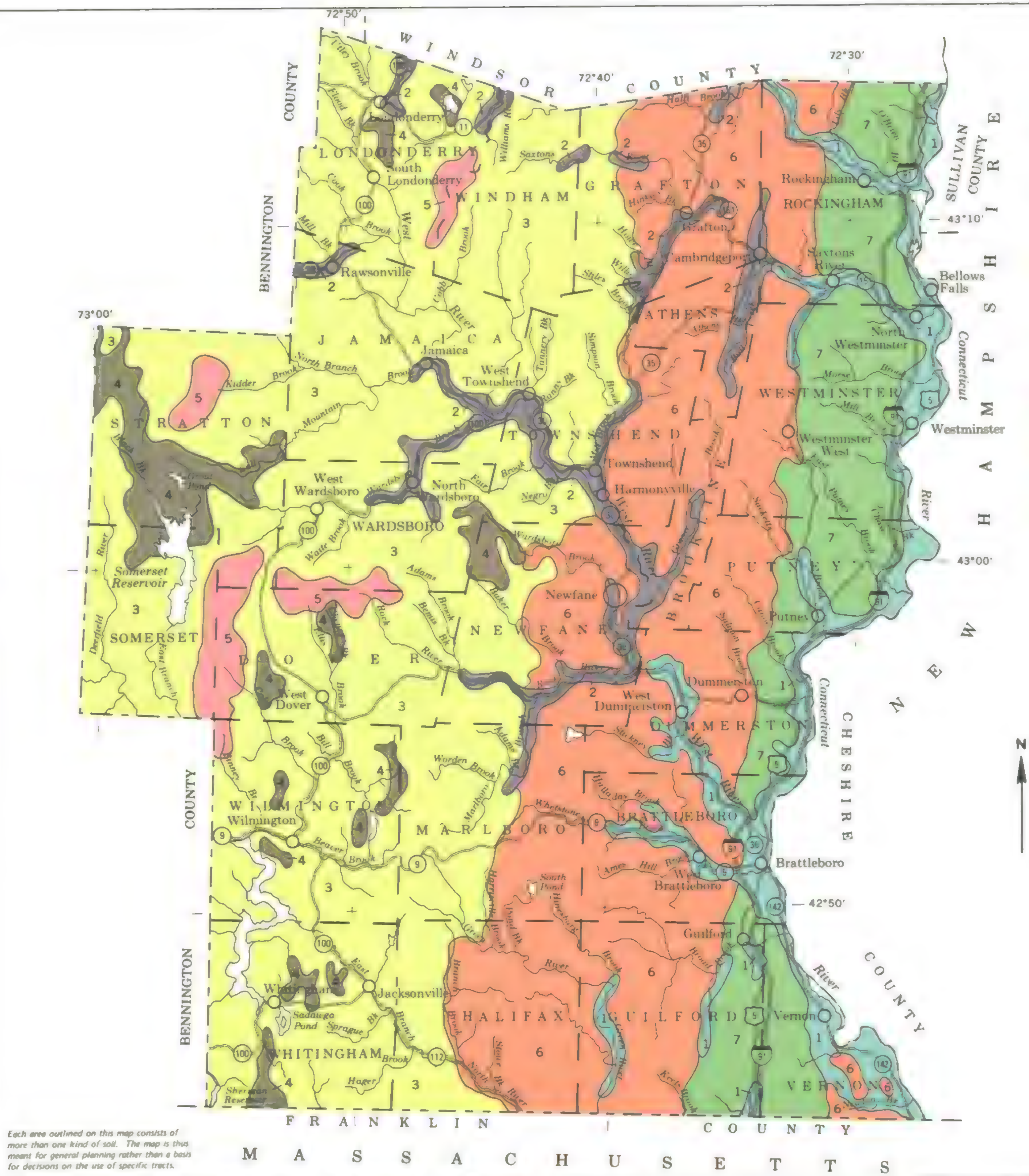


LEGEND

1 — QUONSET-WINDSOR-WARWICK: Very deep, gently sloping to very steep, excessively drained and somewhat excessively drained soils that formed in gravelly, sandy, and loamy glaciofluvial deposits; on stream terraces and in other outwash areas

2 — COLTON-ADAMS-PODUNK: Very deep, nearly level to very steep, excessively drained to moderately well drained soils that formed in cobbly, gravelly, and sandy glaciofluvial deposits and in loamy alluvium; on stream terraces, in other outwash areas, and on flood plains

3 — HOUGHTONVILLE-RAWSONVILLE-MUNDAL: Very deep and moderately deep, gently sloping to very steep, well drained and moderately well drained soils that formed in loamy glacial till and in compact, loamy glacial till; on hills and mountains

4 — WORDEN-WILMINGTON: Very deep, gently sloping to moderately steep, somewhat poorly drained and poorly drained soils that formed in compact, loamy glacial till; on hills and in depressional areas on uplands

5 — STRATTON-GLEBE-LONDONDERRY: Moderately deep to very shallow, strongly sloping to very steep, well drained soils that formed in loamy glacial till; on mountains

6 — TUNBRIDGE-MARLOW-LYMAN: Very deep to shallow, gently sloping to very steep, somewhat excessively drained and well trained soils that formed in loamy glacial till and in compact, loamy glacial till; on hills and mountains

7 — DUMMERSTON-MACOMBER-TACONIC: Very deep to shallow, gently sloping to very steep, somewhat excessively drained and well drained soils that formed in loamy glacial till; on hills and mountains

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
VERMONT AGENCY OF ENVIRONMENTAL CONSERVATION
VERMONT AGRICULTURAL EXPERIMENT STATION

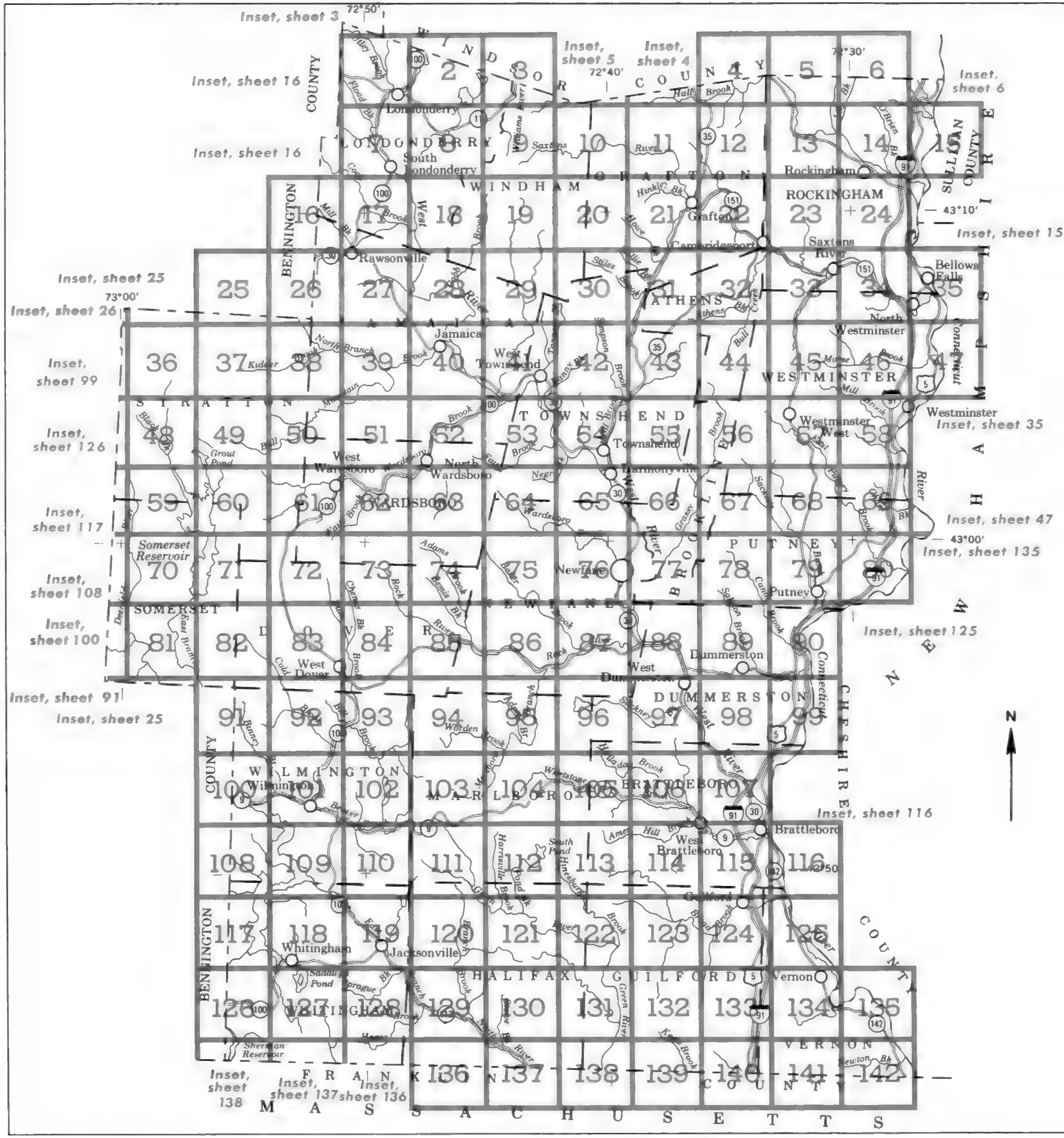
GENERAL SOIL MAP

WINDHAM COUNTY, VERMONT

Scale 1:253,440

1 0 1 2 3 4 Miles

1 0 4 8 Km



INDEX TO MAP SHEETS

WINDHAM COUNTY, VERMONT

Scale 1:253,440

1 0 1 2 3 4 Miles

1 0 4 8 Km

SOIL LEGEND

Publication symbols consist of numbers or a combination of numbers and letters (e.g. 5B, 29, 43C). The initial numbers represent the kind of soil. A capital letter of A, B, C, D, E, or F following these numbers indicates the class of slope. Symbols without a slope letter are for nearly level soils, soils named for higher categories, or for miscellaneous areas.

SYMBOL	NAME
1A	Unadilla silt loam, 0 to 3 percent slopes
1B	Unadilla silt loam, 3 to 8 percent slopes
1C	Unadilla silt loam, 8 to 15 percent slopes
1D	Unadilla silt loam, 15 to 25 percent slopes
1E	Udorthents, steep
2A	Belgrade silt loam, 0 to 3 percent slopes
3B	Quonset and Warwick soils, 2 to 8 percent slopes
3C	Quonset and Warwick soils, 8 to 15 percent slopes
3D	Quonset and Warwick soils, 15 to 25 percent slopes
3E	Quonset and Warwick soils, 25 to 70 percent slopes
5B	Windsor loamy fine sand, 2 to 8 percent slopes
5C	Windsor loamy fine sand, 8 to 15 percent slopes
5D	Windsor loamy fine sand, 15 to 25 percent slopes
5E	Windsor loamy fine sand, 25 to 60 percent slopes
9B	Deerfield fine sandy loam, 2 to 8 percent slopes
10A	Agawam very fine sandy loam, 0 to 3 percent slopes
10B	Agawam very fine sandy loam, 3 to 8 percent slopes
11B	Berkshire and Monadnock fine sandy loams, 3 to 8 percent slopes
11C	Berkshire and Monadnock fine sandy loams, 8 to 15 percent slopes
11D	Berkshire and Monadnock fine sandy loams, 15 to 25 percent slopes
12C	Stratton-Glebe complex, 8 to 15 percent slopes, very rocky
12D	Stratton-Glebe complex, 15 to 25 percent slopes, very rocky
12E	Stratton-Glebe complex, 25 to 50 percent slopes, very rocky
16B	Adams loamy fine sand, 2 to 8 percent slopes
16C	Adams loamy fine sand, 8 to 15 percent slopes
16D	Adams loamy fine sand, 15 to 25 percent slopes
16E	Adams loamy fine sand, 25 to 50 percent slopes
17B	Worden loam, 3 to 8 percent slopes
17C	Worden loam, 8 to 15 percent slopes
18B	Worden loam, 3 to 8 percent slopes, very bouldery
18C	Worden loam, 8 to 15 percent slopes, very bouldery
18D	Worden loam, 15 to 25 percent slopes, very bouldery
20B	Tunbridge-Lyman fine sandy loams, 3 to 8 percent slopes, very rocky
20C	Tunbridge-Lyman fine sandy loams, 8 to 15 percent slopes, very rocky
20D	Tunbridge-Lyman fine sandy loams, 15 to 25 percent slopes, very rocky
20E	Tunbridge-Lyman fine sandy loams, 25 to 50 percent slopes, very rocky
21B	Marlow fine sandy loam, 3 to 8 percent slopes
21C	Marlow fine sandy loam, 8 to 15 percent slopes
21D	Marlow fine sandy loam, 15 to 25 percent slopes
22B	Marlow fine sandy loam, 3 to 8 percent slopes, very stony
22C	Marlow fine sandy loam, 8 to 15 percent slopes, very stony
22D	Marlow fine sandy loam, 15 to 25 percent slopes, very stony
22E	Marlow fine sandy loam, 25 to 50 percent slopes, very stony
23	Ondawa fine sandy loam
24	Podunk fine sandy loam
25B	Westbury fine sandy loam, 3 to 8 percent slopes
25C	Westbury fine sandy loam, 8 to 15 percent slopes
26B	Westbury fine sandy loam, 3 to 8 percent slopes, very stony
26C	Westbury fine sandy loam, 8 to 15 percent slopes, very stony
26D	Westbury fine sandy loam, 15 to 25 percent slopes, very stony
29	Walpole fine sandy loam
31B	Wilmington very fine sandy loam, 2 to 8 percent slopes, very stony
33	Rumney fine sandy loam
34C	Lyman-Rock outcrop complex, 8 to 15 percent slopes
34D	Lyman-Rock outcrop complex, 15 to 25 percent slopes
34E	Lyman-Rock outcrop complex, 25 to 50 percent slopes
37	Hadley silt loam
39	Winooski silt loam
40	Limerick silt loam
41D	Londonderry-Stratton silt loams, 8 to 25 percent slopes, very rocky
41E	Londonderry-Stratton silt loams, 25 to 70 percent slopes, very rocky
43B	Mundal fine sandy loam, 3 to 8 percent slopes
43C	Mundal fine sandy loam, 8 to 15 percent slopes
43D	Mundal fine sandy loam, 15 to 25 percent slopes
44B	Mundal fine sandy loam, 3 to 8 percent slopes, very stony
44C	Mundal fine sandy loam, 8 to 15 percent slopes, very stony
44D	Mundal fine sandy loam, 15 to 25 percent slopes, very stony
44E	Mundal fine sandy loam, 25 to 50 percent slopes, very stony
46B	Berkshire and Monadnock fine sandy loams, 3 to 8 percent slopes, very stony
46C	Berkshire and Monadnock fine sandy loams, 8 to 15 percent slopes, very stony
46D	Berkshire and Monadnock fine sandy loams, 15 to 25 percent slopes, very stony
46E	Berkshire and Monadnock fine sandy loams, 25 to 50 percent slopes, very stony
47	Lupton mucky peat
48B	Rawsonville-Hogback fine sandy loams, 3 to 8 percent slopes, rocky
48C	Rawsonville-Hogback fine sandy loams, 8 to 15 percent slopes, rocky
48D	Rawsonville-Hogback fine sandy loams, 15 to 25 percent slopes, rocky
48E	Rawsonville-Hogback fine sandy loams, 25 to 50 percent slopes, rocky
49B	Houghtonville-Rawsonville fine sandy loams, 3 to 8 percent slopes, very bouldery
49C	Houghtonville-Rawsonville fine sandy loams, 8 to 15 percent slopes, very bouldery
49D	Houghtonville-Rawsonville fine sandy loams, 15 to 25 percent slopes, very bouldery
49E	Houghtonville-Rawsonville fine sandy loams, 25 to 50 percent slopes, very bouldery
50B	Colton loamy fine sand, 2 to 8 percent slopes
50C	Colton loamy fine sand, 8 to 15 percent slopes
50D	Colton loamy fine sand, 15 to 25 percent slopes
50E	Colton loamy fine sand, 25 to 60 percent slopes
52A	Sheepscot fine sandy loam, 0 to 3 percent slopes
52B	Sheepscot fine sandy loam, 3 to 8 percent slopes
56B	Monadnock fine sandy loam, 3 to 8 percent slopes, very stony
56C	Monadnock fine sandy loam, 8 to 15 percent slopes, very stony
56D	Monadnock fine sandy loam, 15 to 25 percent slopes, very stony
56E	Monadnock fine sandy loam, 25 to 50 percent slopes, very stony
60B	Houghtonville fine sandy loam, 3 to 8 percent slopes
60C	Houghtonville fine sandy loam, 8 to 15 percent slopes
60D	Houghtonville fine sandy loam, 15 to 25 percent slopes
61B	Houghtonville fine sandy loam, 3 to 8 percent slopes, very stony
61C	Houghtonville fine sandy loam, 8 to 15 percent slopes, very stony
61D	Houghtonville fine sandy loam, 15 to 25 percent slopes, very stony
61E	Houghtonville fine sandy loam, 25 to 50 percent slopes, very stony
62	Markey muck
63C	Berkshire-Tunbridge fine sandy loams, 8 to 15 percent slopes, very stony
63D	Berkshire-Tunbridge fine sandy loams, 15 to 25 percent slopes, very stony
63E	Berkshire-Tunbridge fine sandy loams, 25 to 50 percent slopes, very stony
64	Udifluvents, loamy
65C	Hogback-Rawsonville fine sandy loams, 8 to 15 percent slopes, very rocky
65D	Hogback-Rawsonville fine sandy loams, 15 to 25 percent slopes, very rocky
65E	Hogback-Rawsonville fine sandy loams, 25 to 50 percent slopes, very rocky
66B	Houghtonville-Rawsonville fine sandy loams, 3 to 8 percent slopes, rocky
66C	Houghtonville-Rawsonville fine sandy loams, 8 to 15 percent slopes, rocky
67B	Berkshire-Tunbridge fine sandy loams, 3 to 8 percent slopes, rocky
67C	Berkshire-Tunbridge fine sandy loams, 8 to 15 percent slopes, rocky
68D	Taconic-Hubbardton-Rock outcrop complex, 8 to 25 percent slopes
68E	Taconic-Hubbardton-Rock outcrop complex, 25 to 70 percent slopes
69C	Macomber-Taconic complex, 8 to 15 percent slopes, very rocky
69D	Macomber-Taconic complex, 15 to 25 percent slopes, very rocky
69E	Macomber-Taconic complex, 25 to 70 percent slopes, very rocky
70C	Dummerston-Macomber complex, 8 to 15 percent slopes, very stony
70D	Dummerston-Macomber complex, 15 to 25 percent slopes, very stony
70E	Dummerston-Macomber complex, 25 to 70 percent slopes very stony
71B	Dummerston silt loam, 3 to 8 percent slopes
71C	Dummerston silt loam, 8 to 15 percent slopes
71D	Dummerston silt loam, 15 to 25 percent slopes
72C	Dummerston silt loam, 8 to 15 percent slopes, very stony
72D	Dummerston silt loam, 15 to 25 percent slopes, very stony
72E	Dummerston silt loam, 25 to 70 percent slopes, very stony
73B	Fullam silt loam, 3 to 8 percent slopes
73C	Fullam silt loam, 8 to 15 percent slopes
73D	Fullam silt loam, 15 to 25 percent slopes
74B	Fullam silt loam, 3 to 8 percent slopes, very stony
74C	Fullam silt loam, 8 to 15 percent slopes, very stony
74D	Fullam silt loam, 15 to 25 percent slopes, very stony
74E	Fullam silt loam, 25 to 35 percent slopes, very stony
75B	Brayton silt loam, 2 to 8 percent slopes, very stony
76B	Dummerston-Macomber complex, 3 to 8 percent slopes, rocky
76C	Dummerston-Macomber complex, 8 to 15 percent slopes, rocky
W	Water

CONVENTIONAL AND SPECIAL SYMBOLS LEGEND

CULTURAL FEATURES

BOUNDARIES

- National, state or province
- County or parish
- Minor civil division
- Reservation (national forest or park, state forest or park, and large airport)
- Land grant
- Limit of soil survey (label)
- Field sheet matchline & neatline

AD HOC BOUNDARY (label)

- Small airport, airfield, park, oilfield, cemetery, or flood pool

STATE COORDINATE TICK

LAND DIVISION CORNERS (sections and land grants)

ROADS

- Divided (median shown if scale permits)
- Other roads
- Trail

ROAD EMBLEM & DESIGNATIONS

- Interstate
- Federal
- State
- County, farm or ranch

RAILROAD

POWER TRANSMISSION LINE (normally not shown)

PIPE LINE (normally not shown)

FENCE (normally not shown)

LEVEES

- Without road
- With road
- With railroad

DAMS

- Large (to scale)
- Medium or small

PITS

- Gravel pit
- Mine or quarry

MISCELLANEOUS CULTURAL FEATURES

- Farmstead, house (omit in urban areas)
- Church
- School
- Indian mound (label)
- Located object (label)
- Tank (label)
- Wells, oil or gas
- Windmill
- Kitchen midden

WATER FEATURES

DRAINAGE

- Perennial, double line
- Perennial, single line
- Intermittent
- Drainage end
- Canals or ditches
  - Double-line (label)
  - Drainage and/or irrigation

LAKES, PONDS AND RESERVOIRS

- Perennial
- Intermittent

MISCELLANEOUS WATER FEATURES

- Marsh or swamp
- Spring
- Well, artesian
- Well, irrigation
- Wet spot

SPECIAL SYMBOLS FOR SOIL SURVEY

SOIL DELINEATIONS AND SYMBOLS

ESCARPMENTS

- Bedrock (points down slope)
- Other than bedrock (points down slope)

SHORT STEEP SLOPE

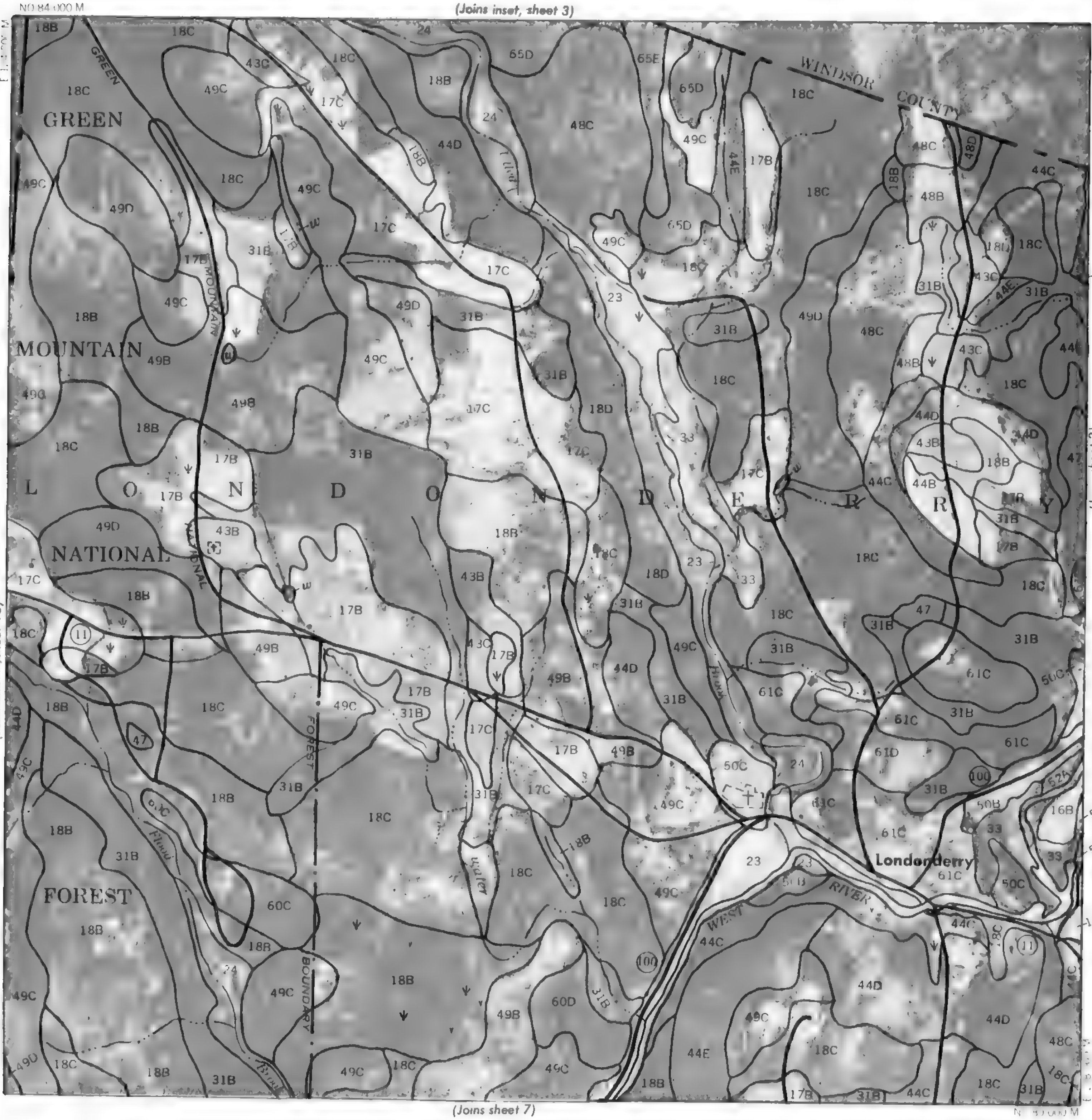
GULLY

DEPRESSION OR SINK

SOIL SAMPLE SITE (normally not shown)

MISCELLANEOUS

- Blowout
- Clay spot
- Gravelly spot
- Gumbo, slick or scabby spot (sodic)
- Dumps and other similar non soil areas
- Prominent hill or peak
- Rock outcrop (includes sandstone and shale)
- Saline spot
- Sandy spot
- Severely eroded spot
- Slide or slip (tips point upslope)
- Stony spot, very stony spot



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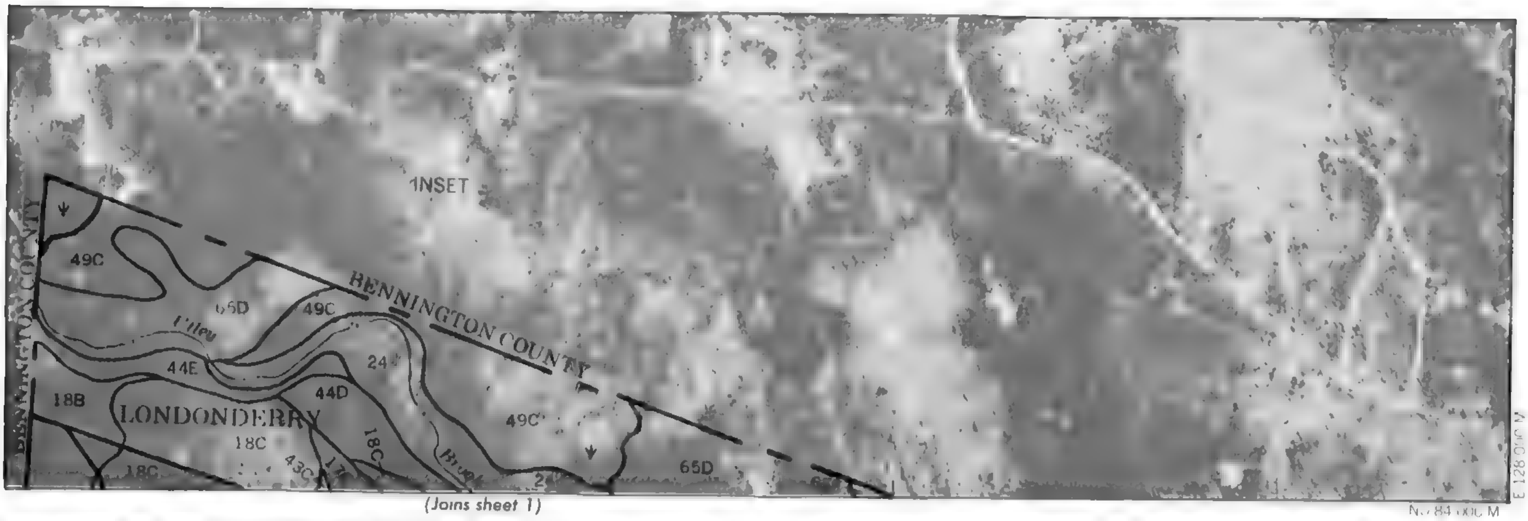

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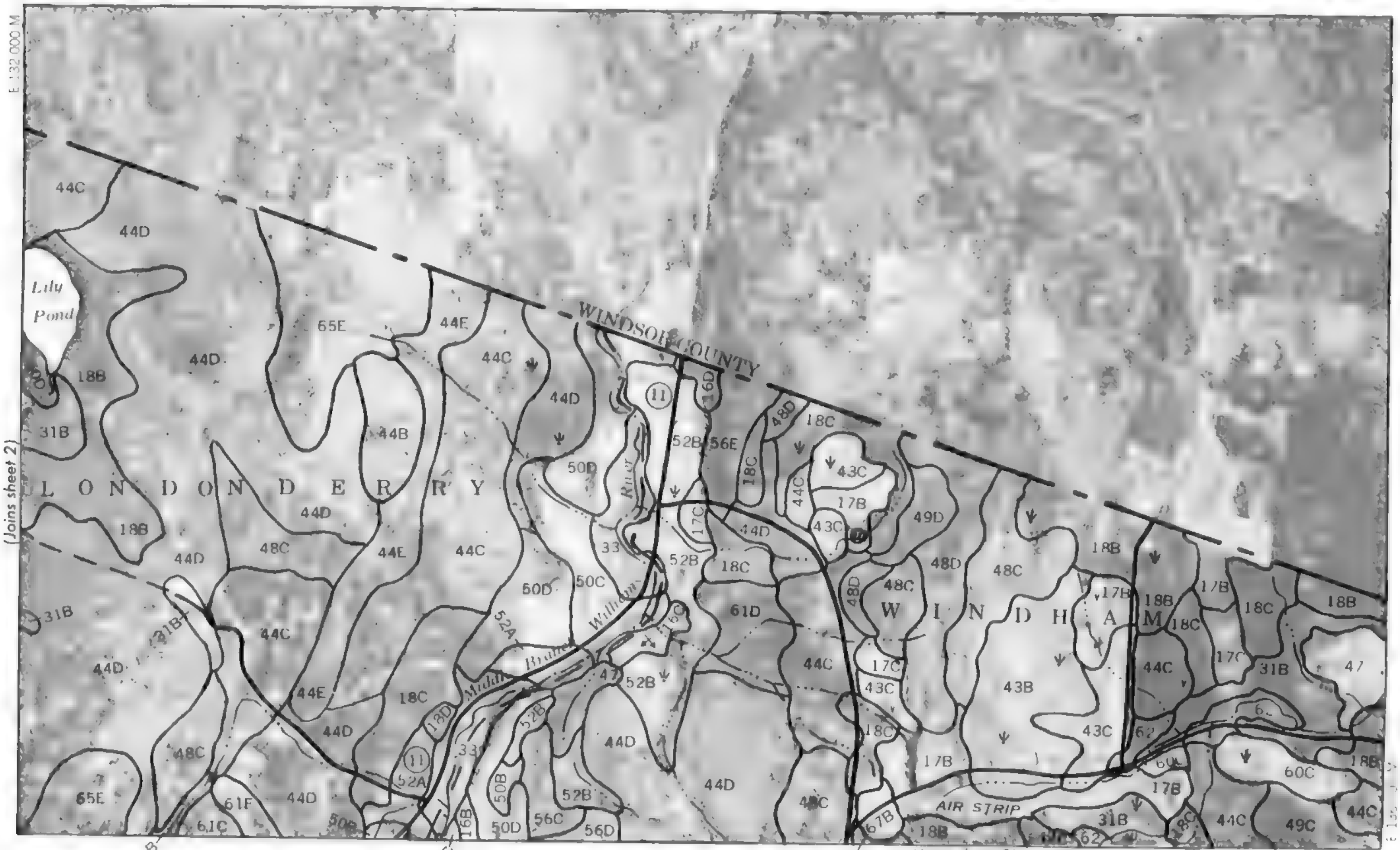

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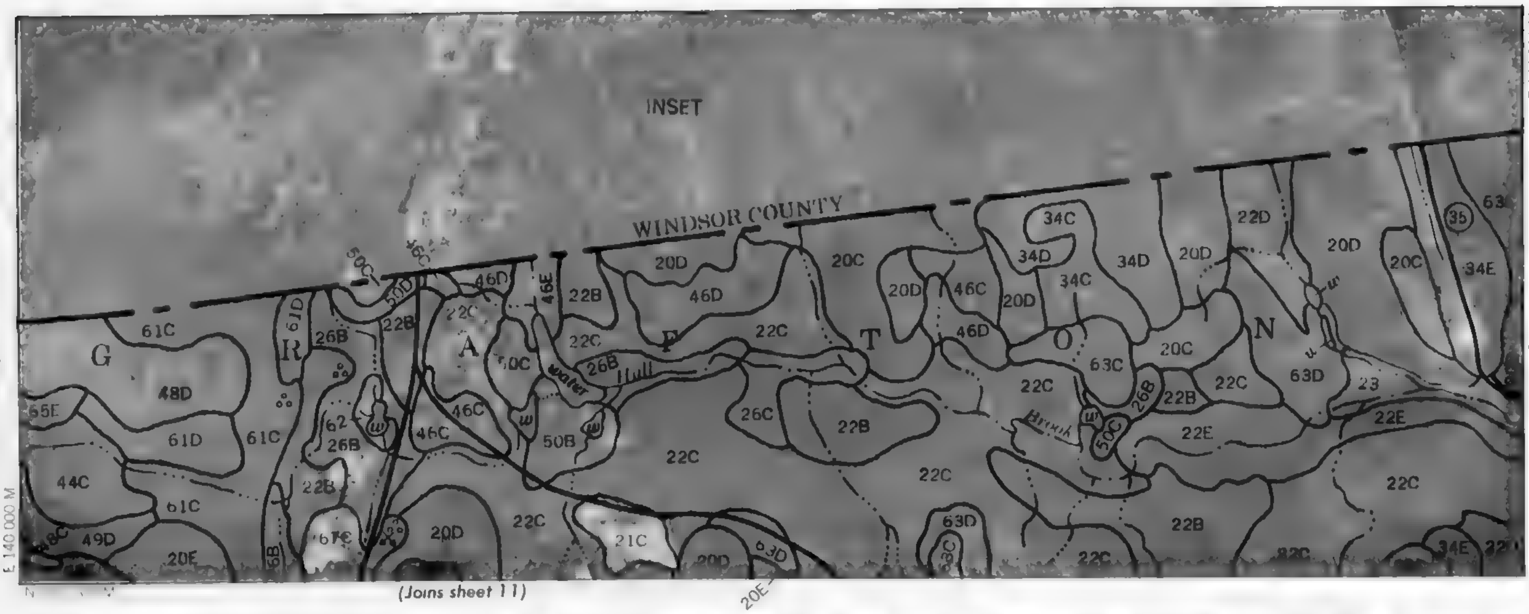

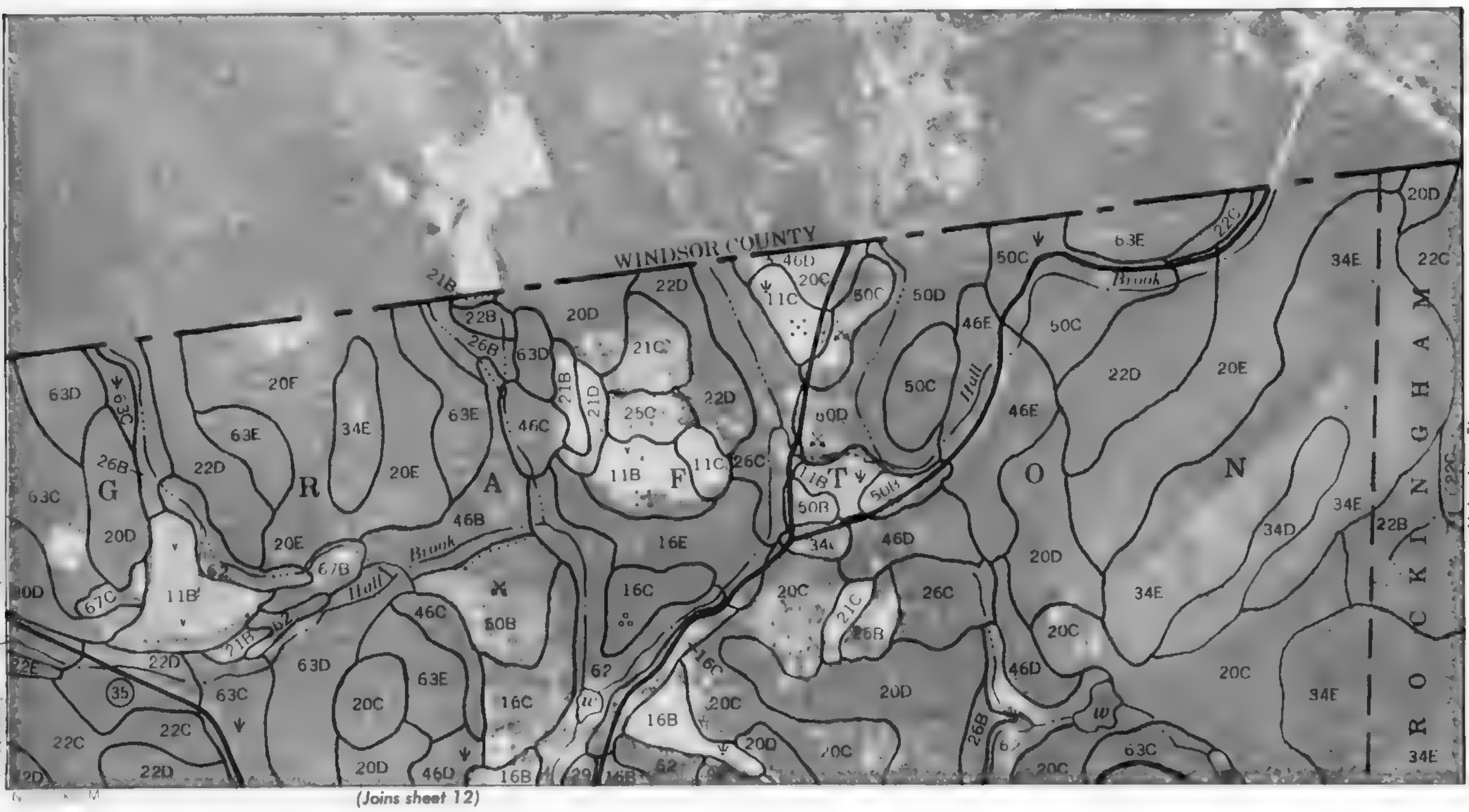

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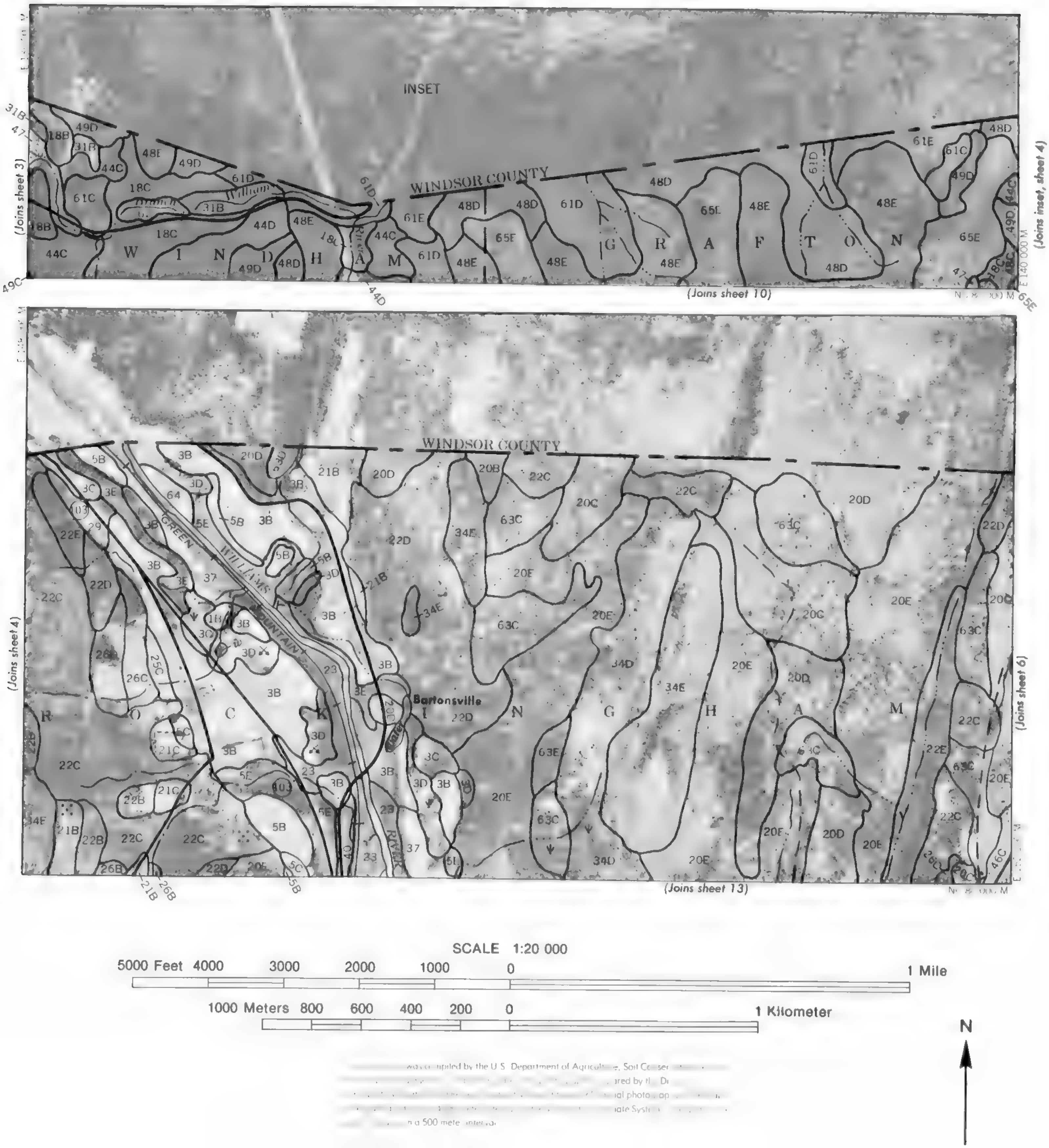
INSET
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WINDHAM
GRAFTON
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(Joins inset, sheet 4)
(Joins sheet 10)
WINDSOR COUNTY
ROCKINGHAM
Bartonsville
(Joins sheet 4)
(Joins sheet 6)
(Joins sheet 13)
GREEN MOUNTAIN
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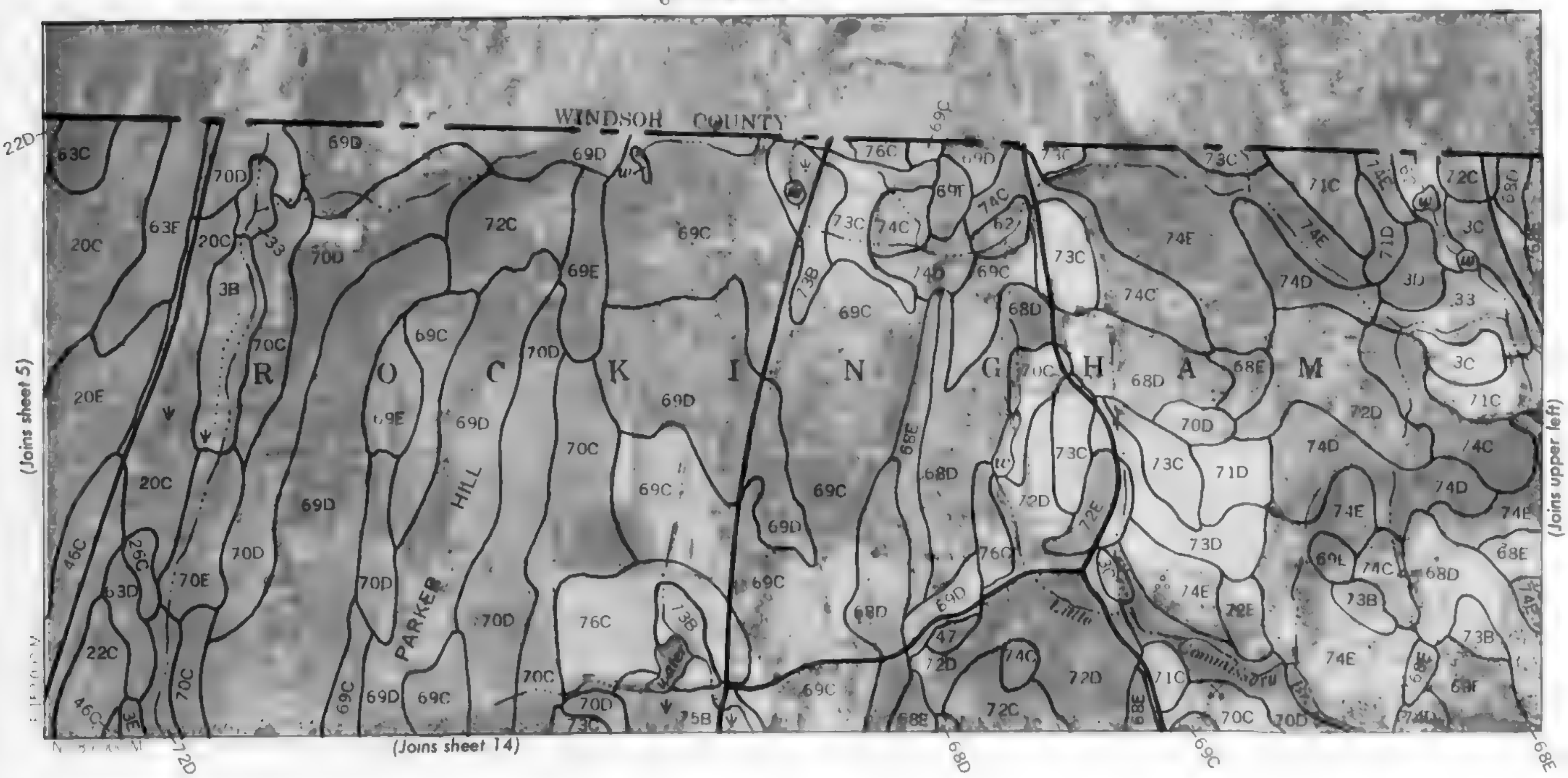

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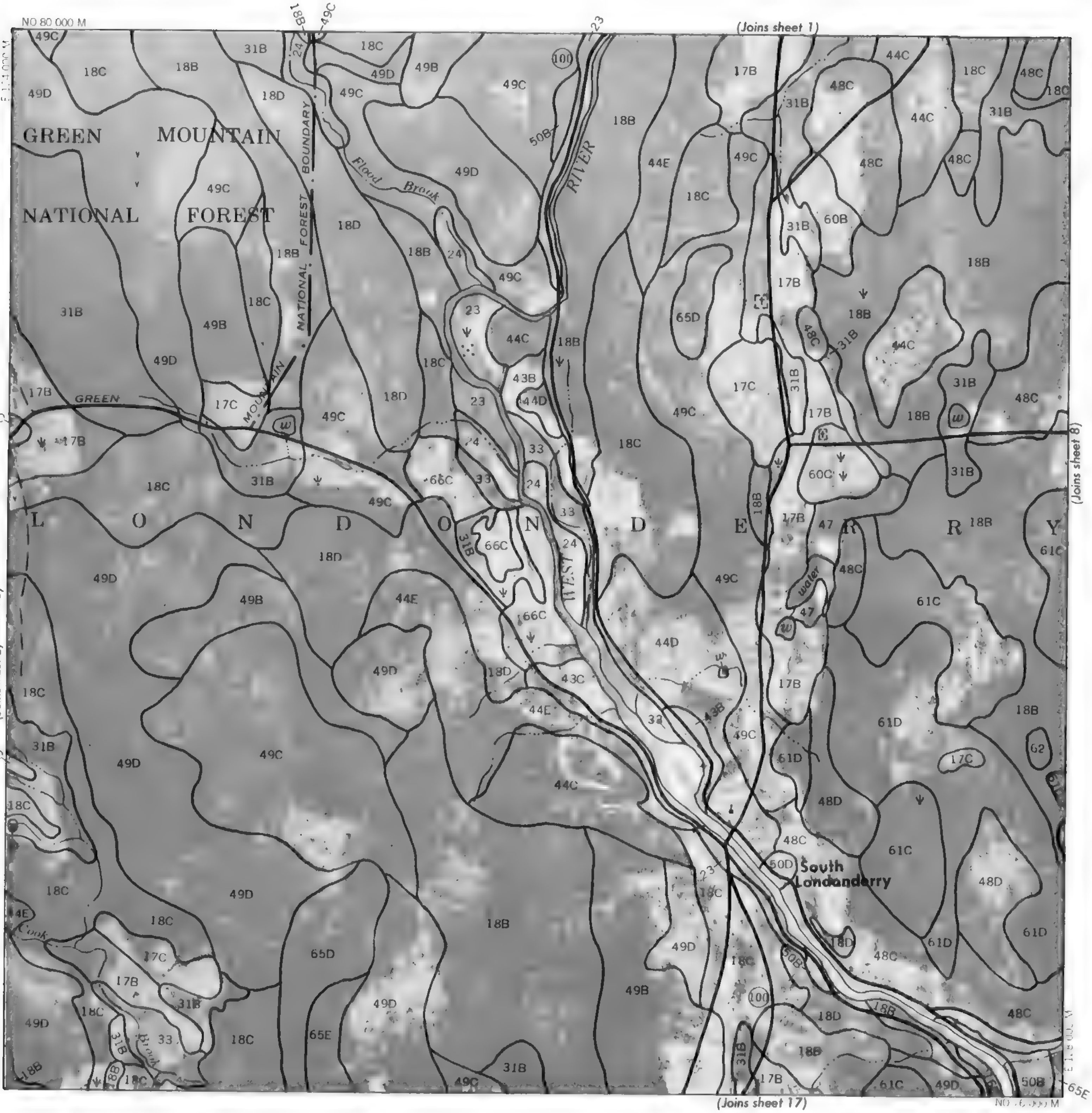

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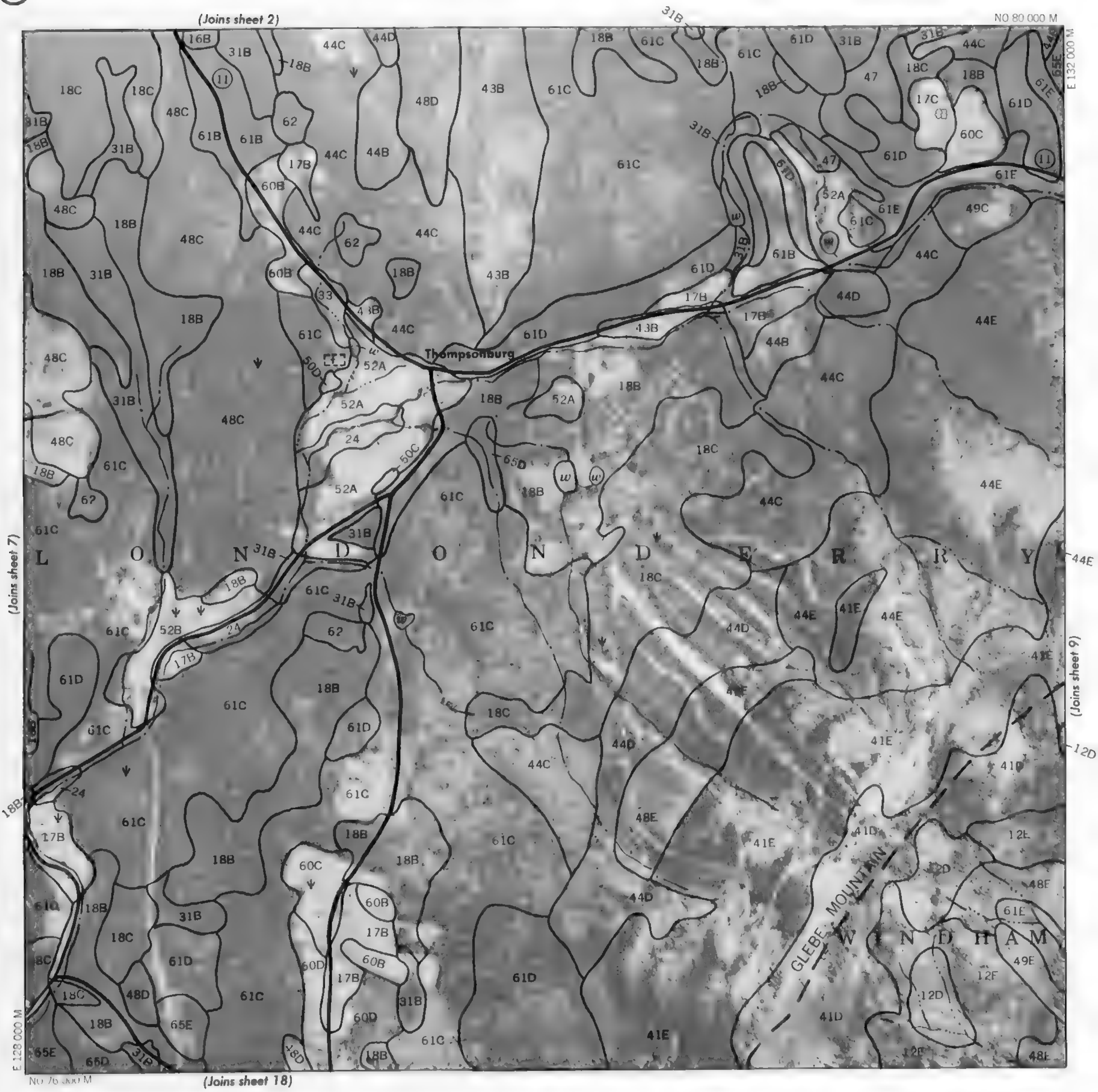

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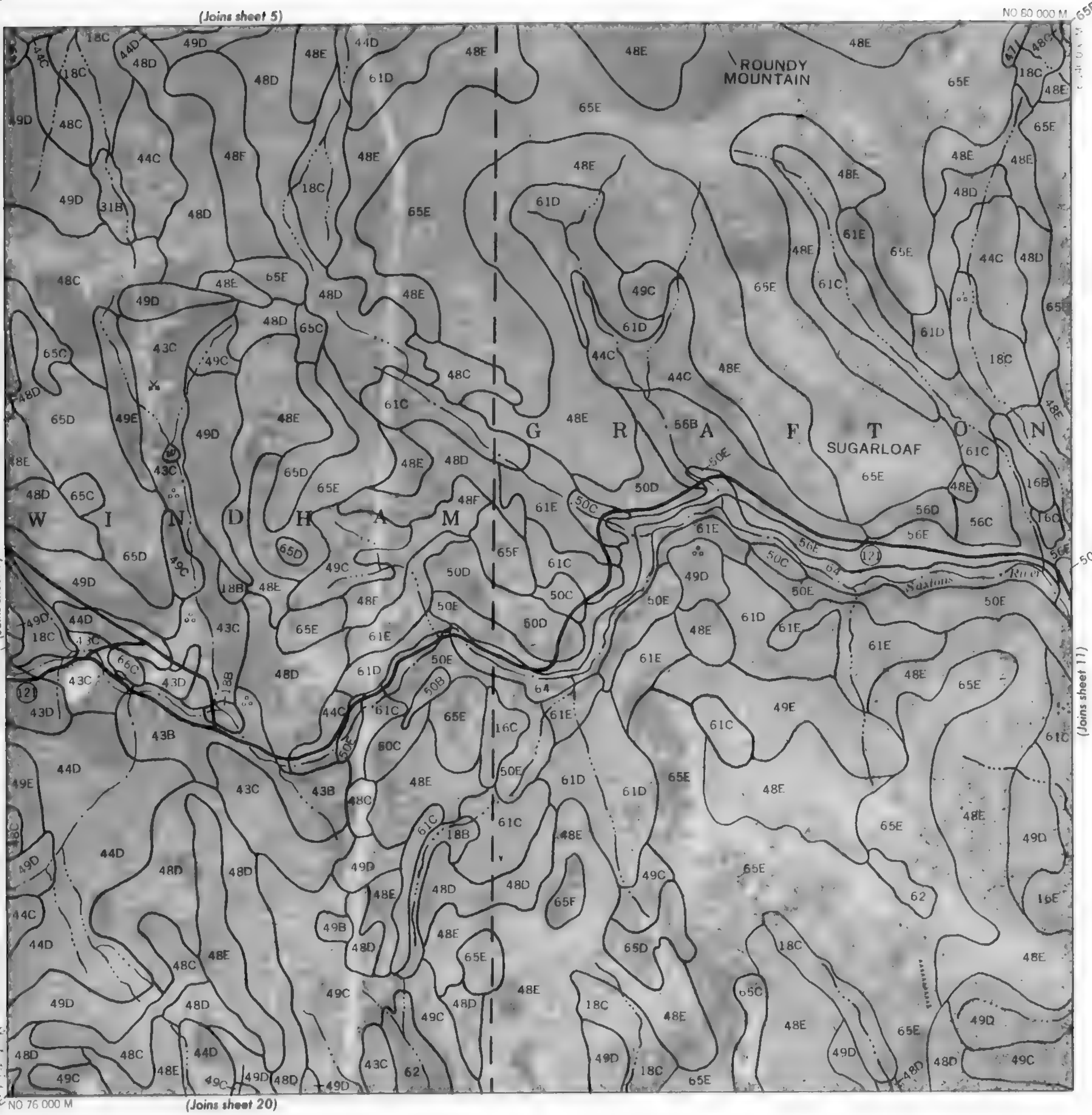

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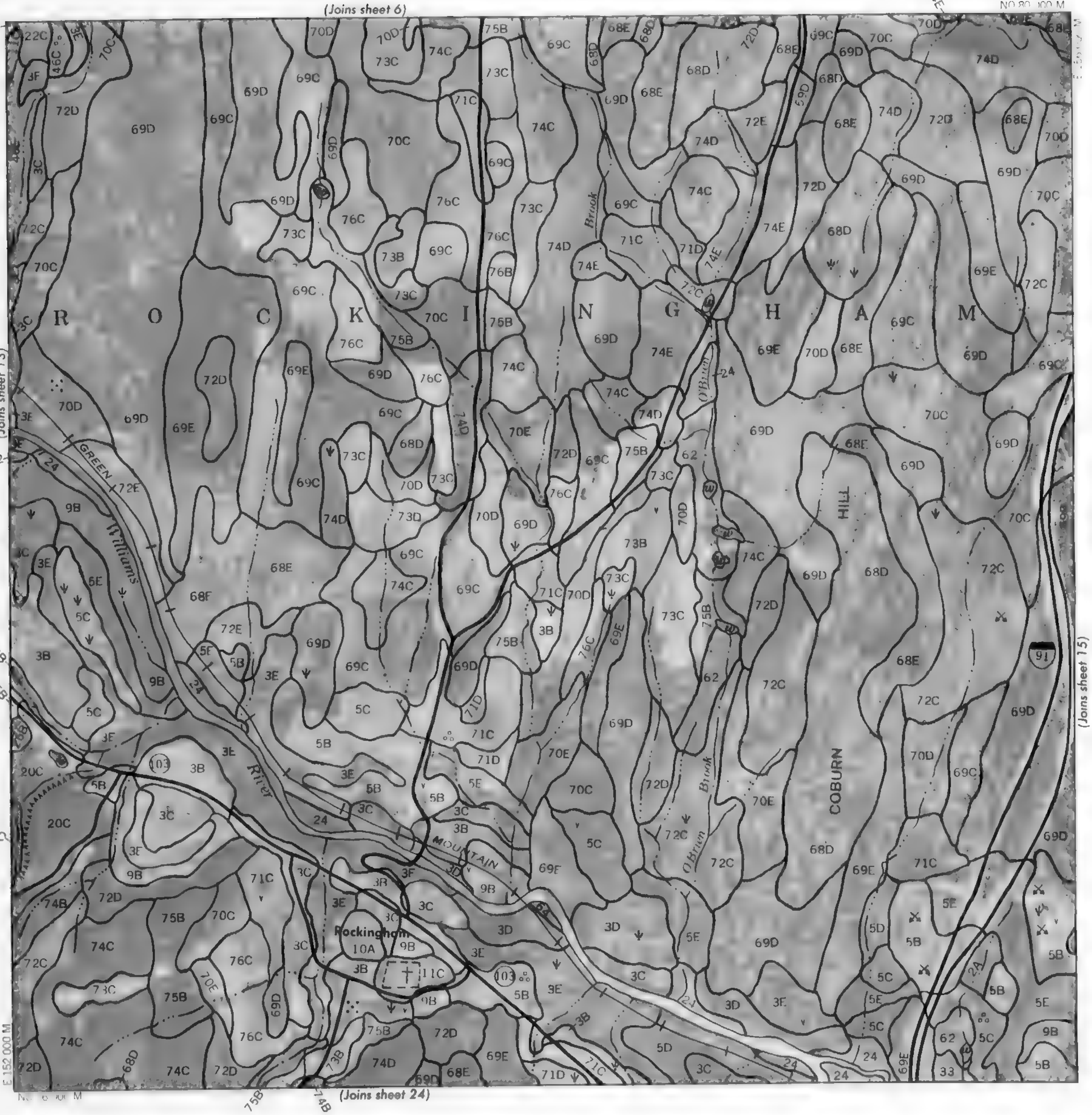

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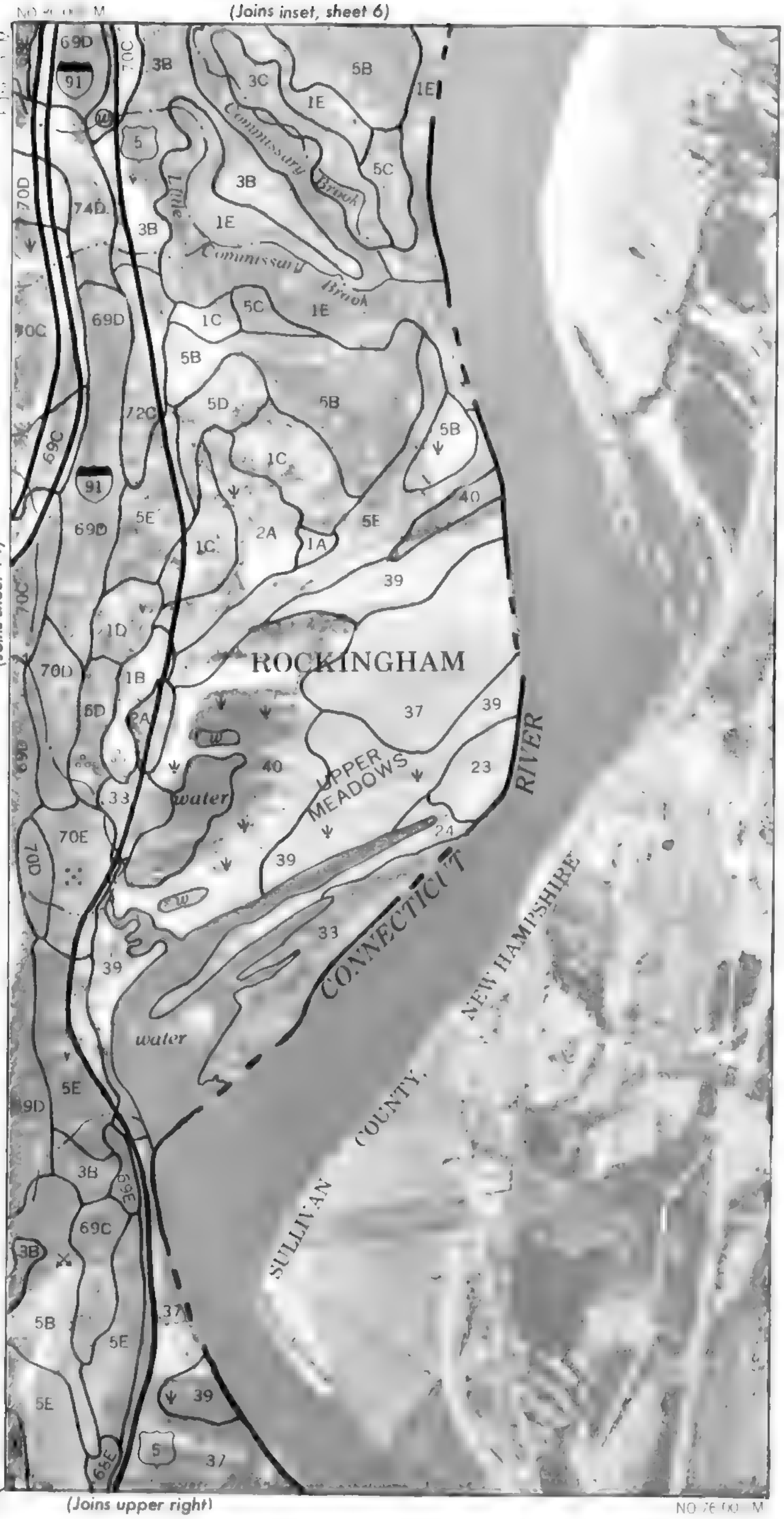

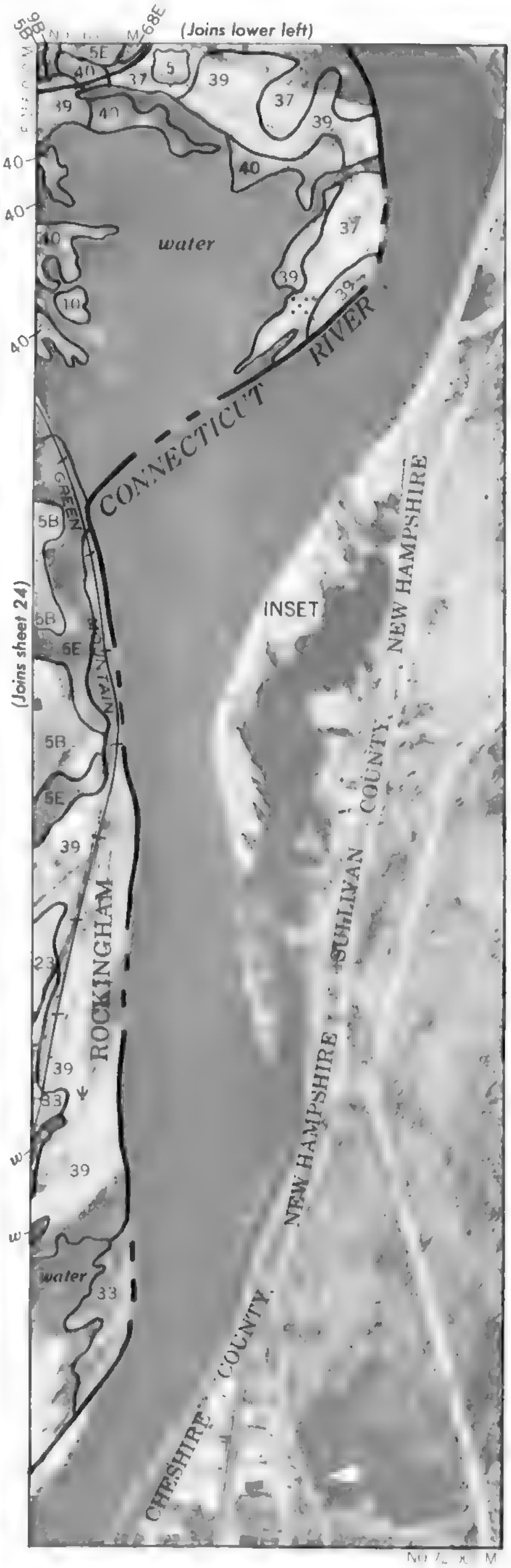

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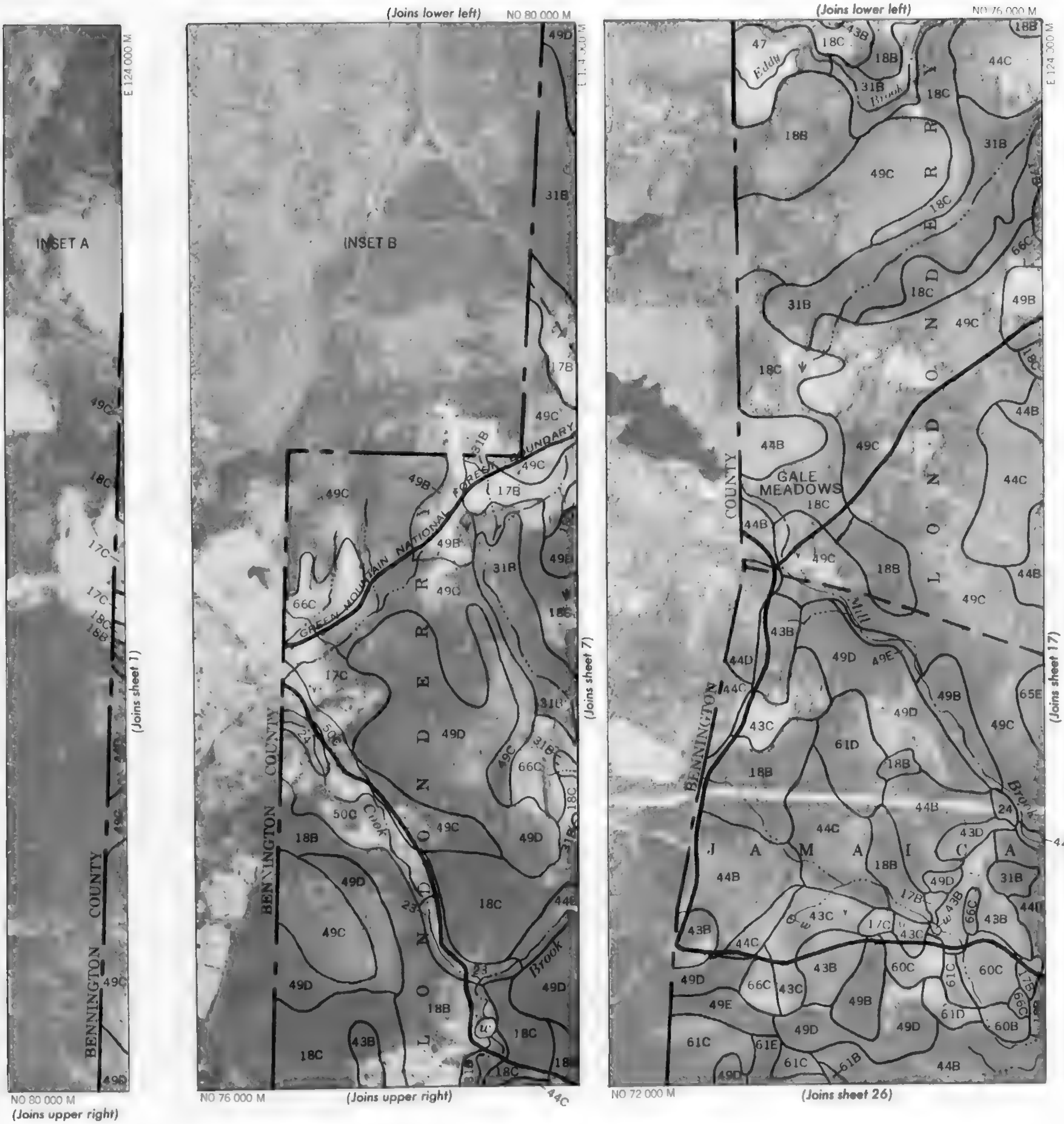

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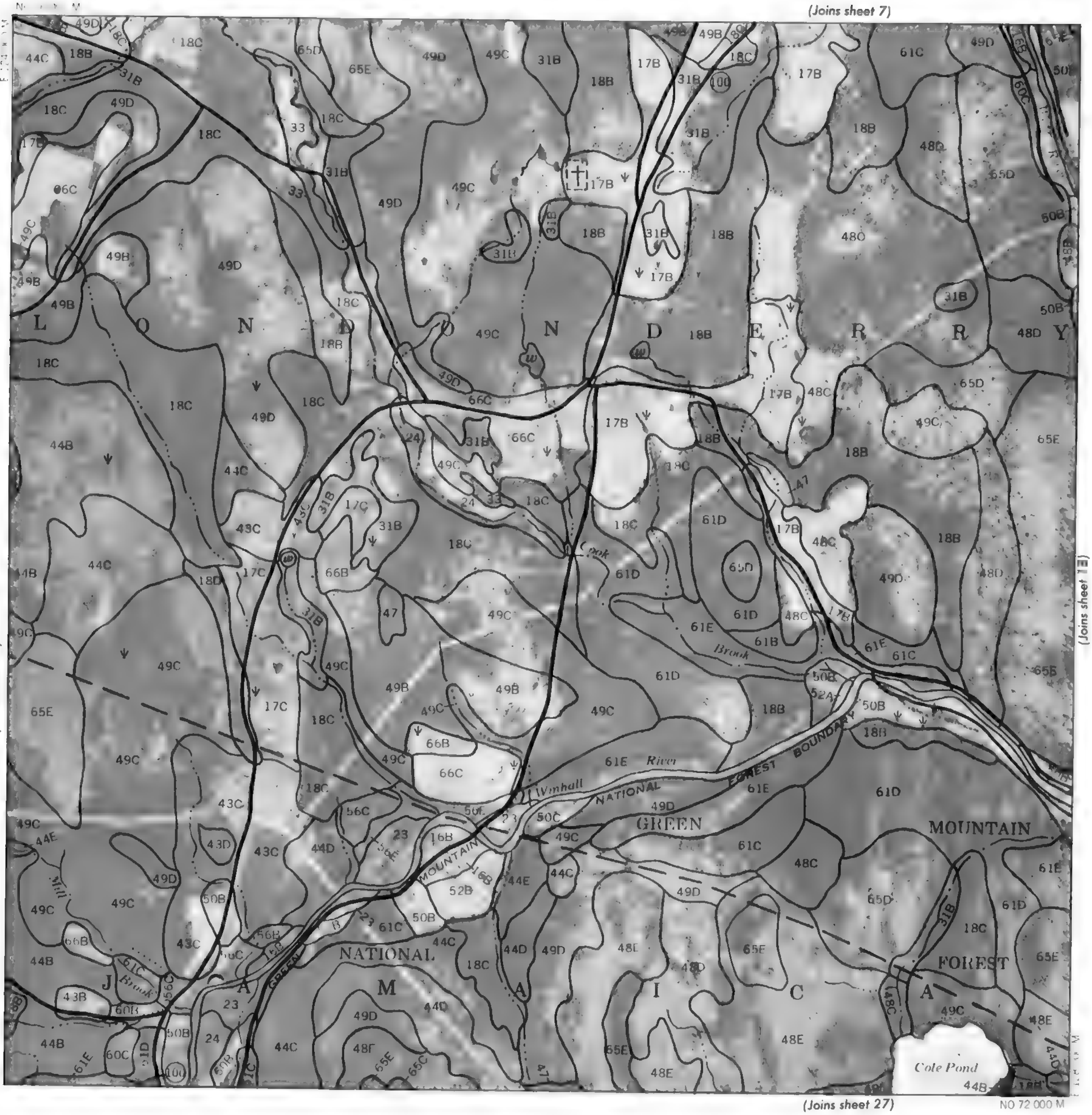

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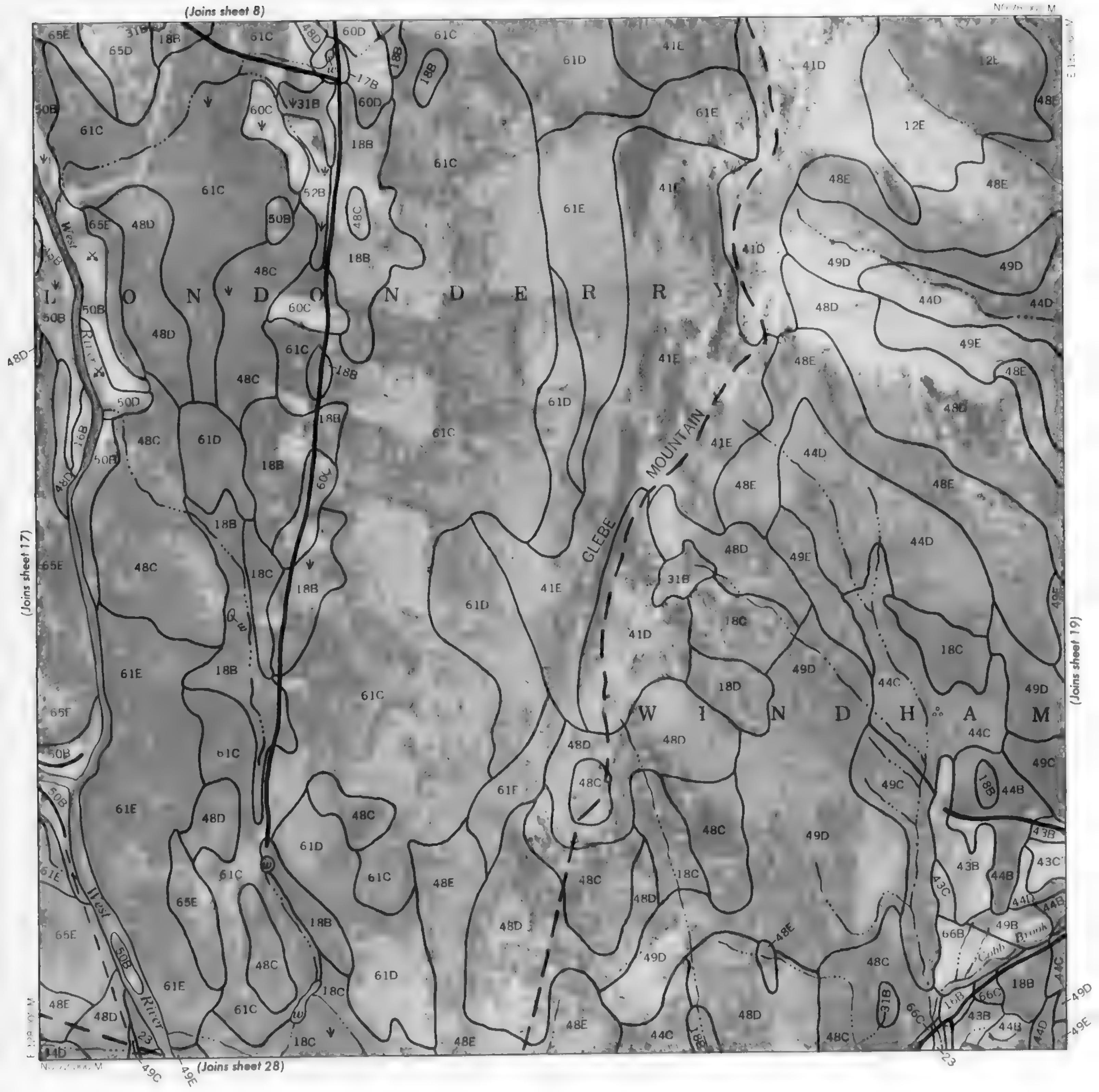

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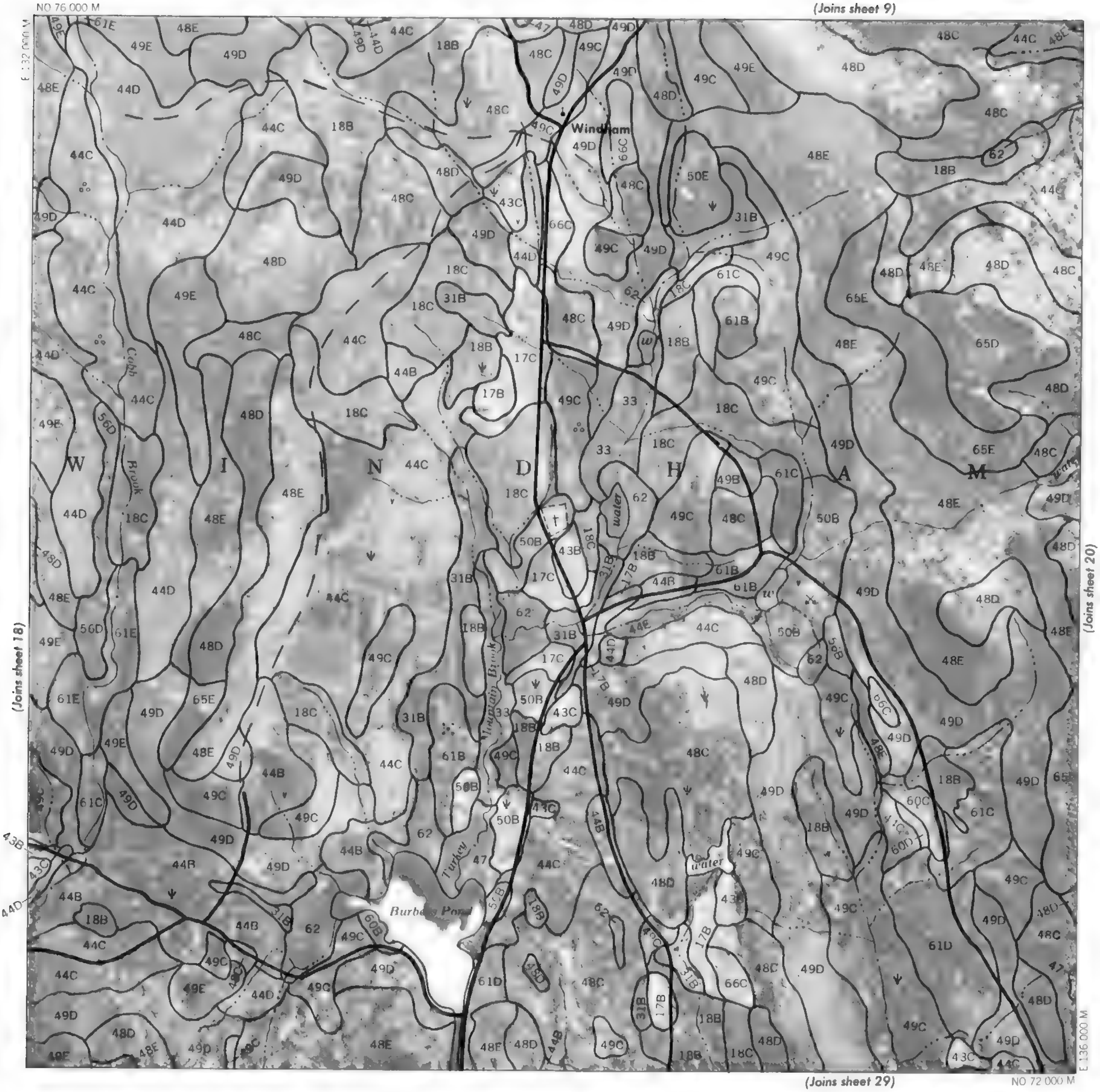

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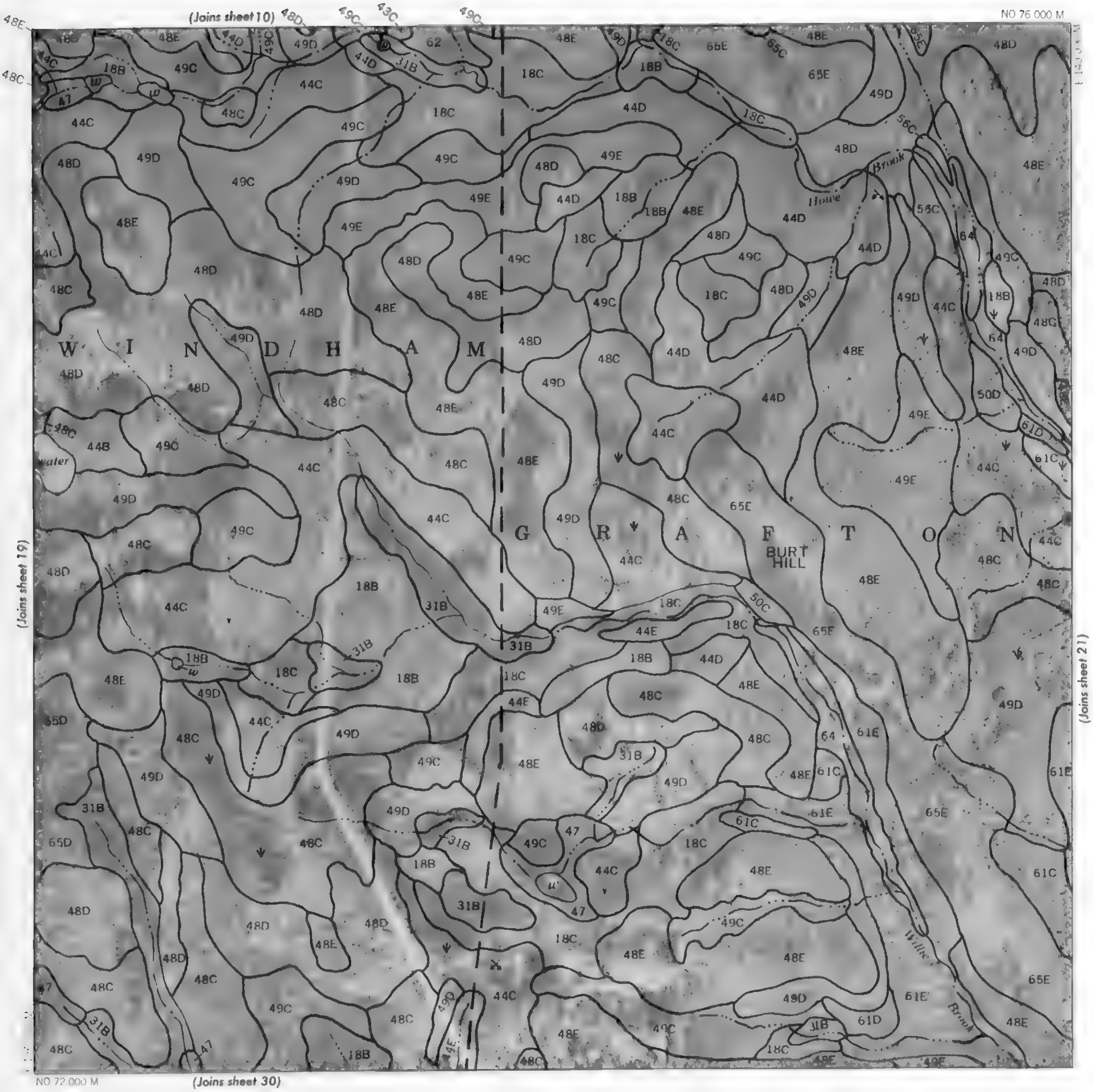

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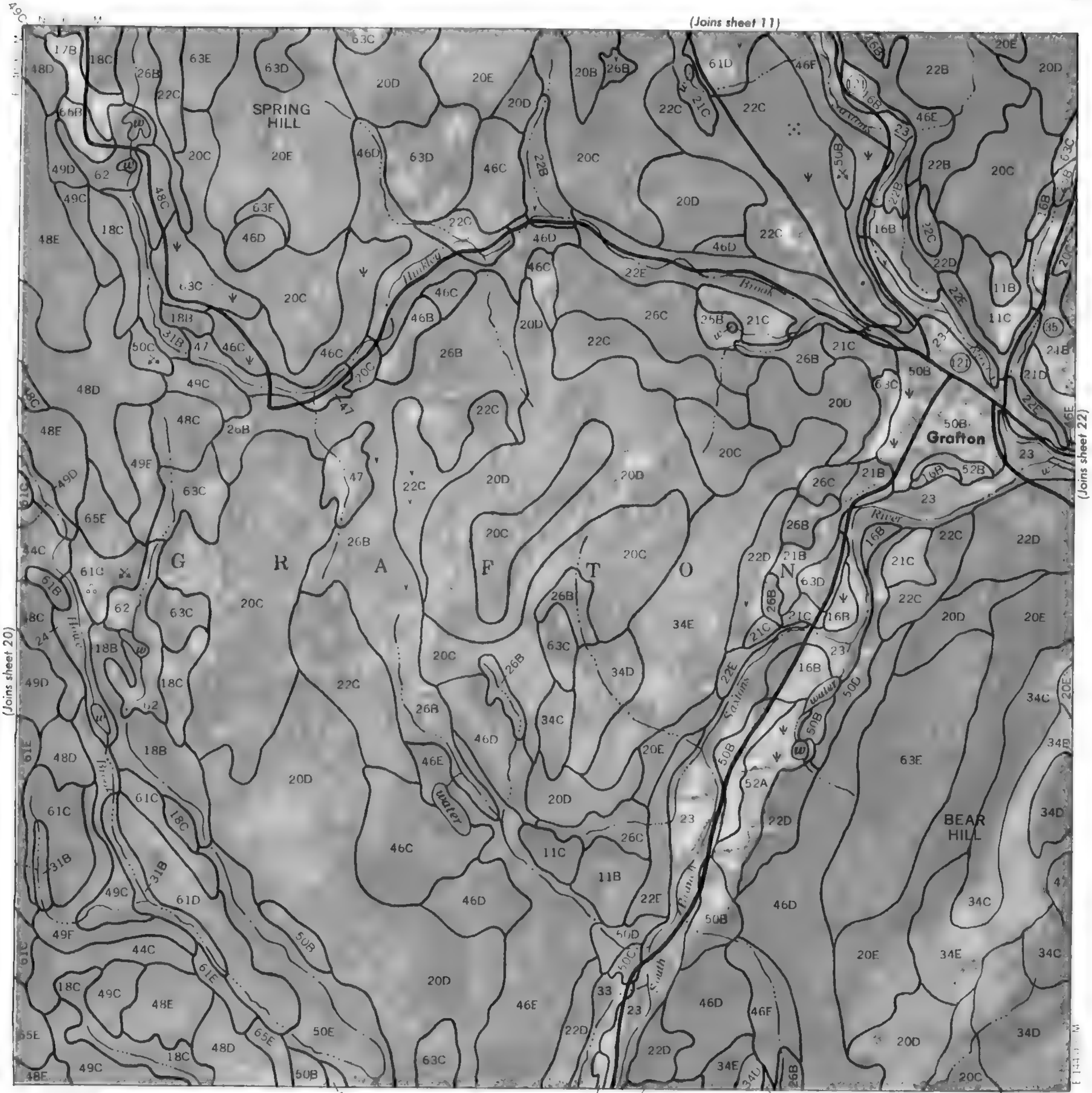

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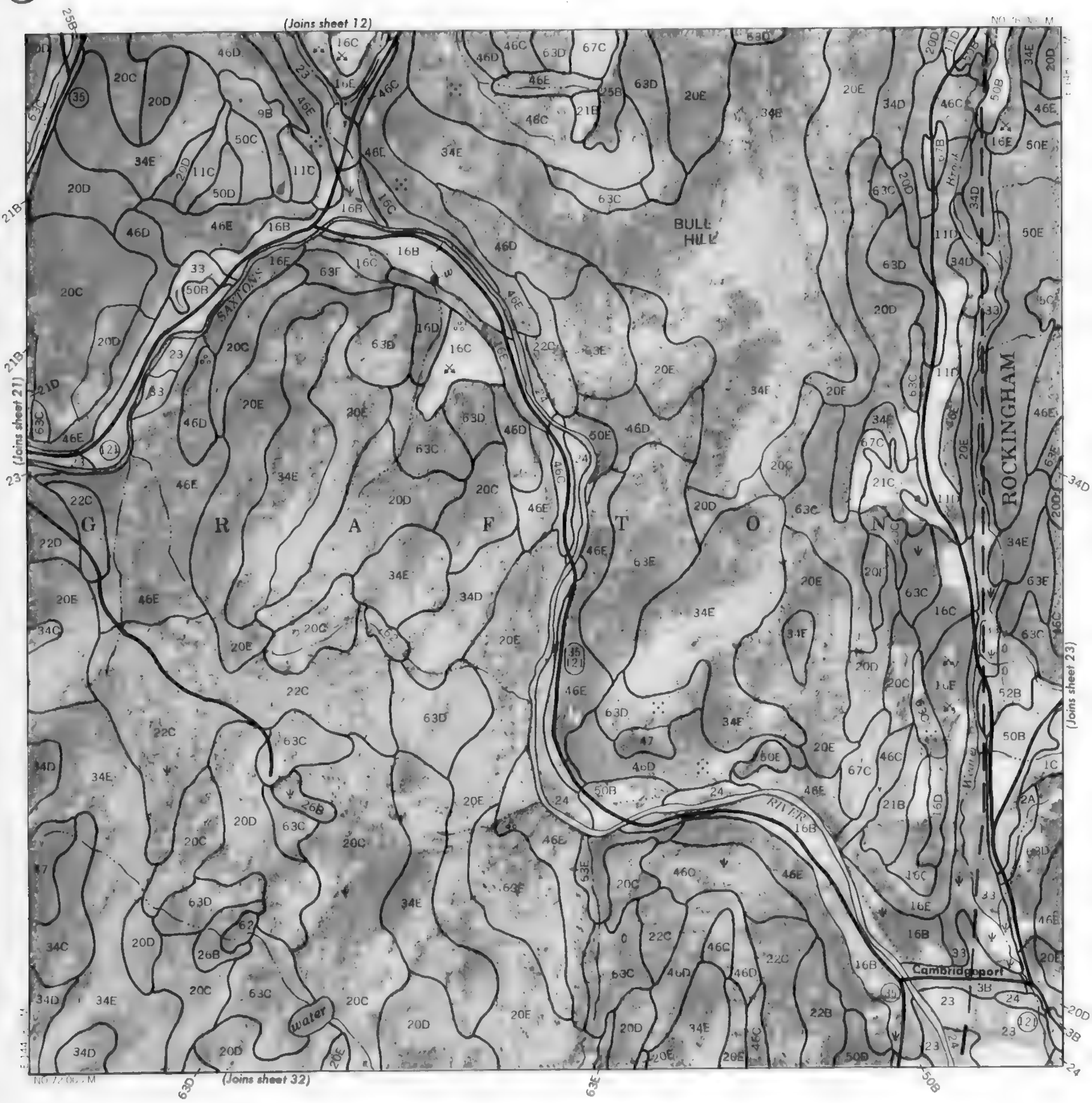

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1000 Meters 800 600 400 200 0 1 Kilometer

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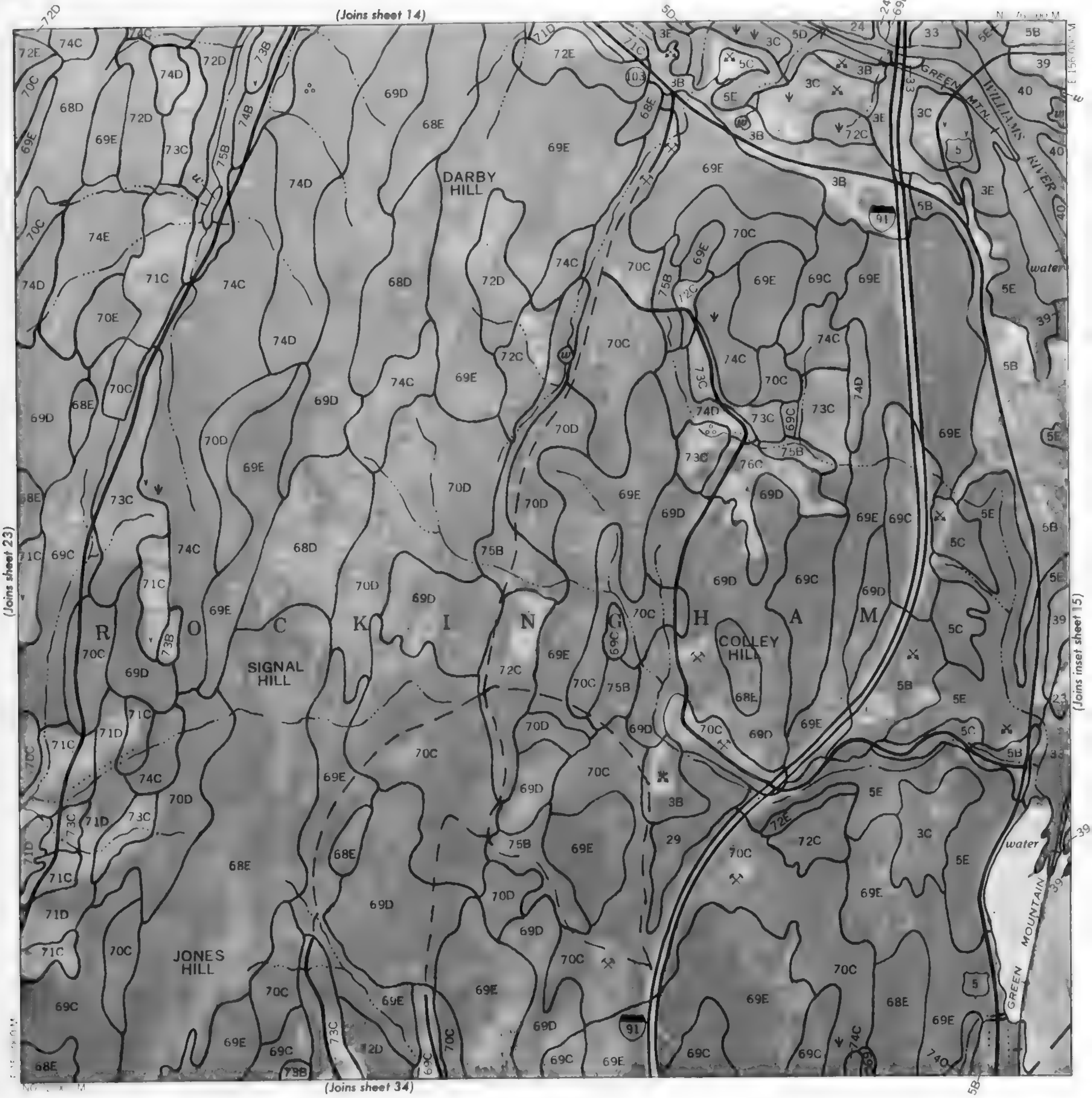


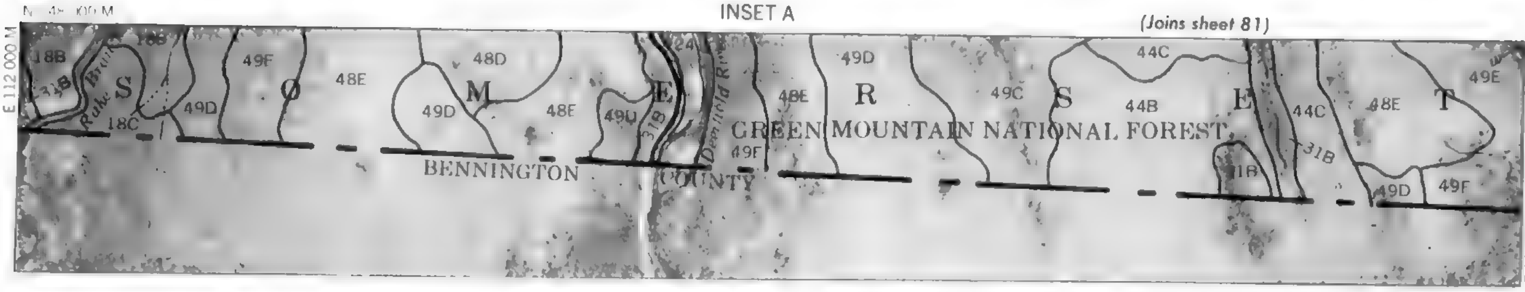
SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

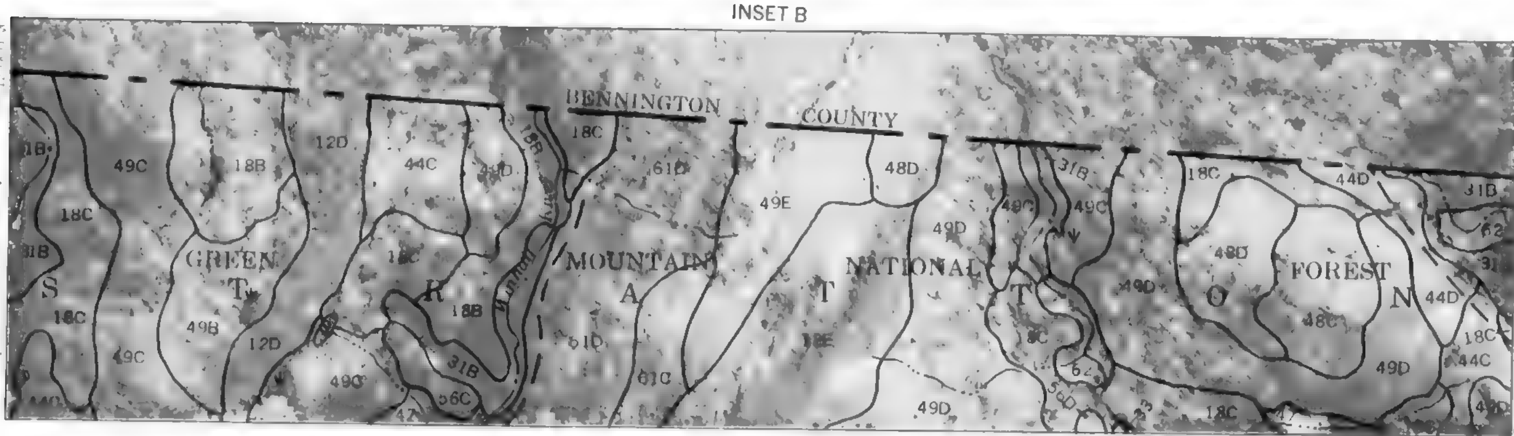
1000 Meters 800 600 400 200 0 1 Kilometer

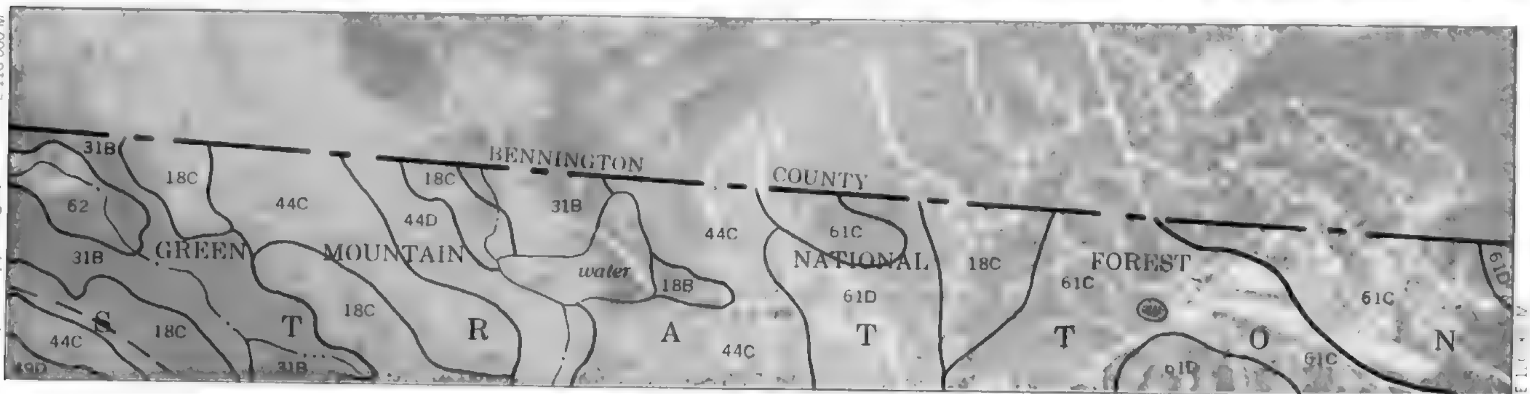
N

INSET A



INSET B



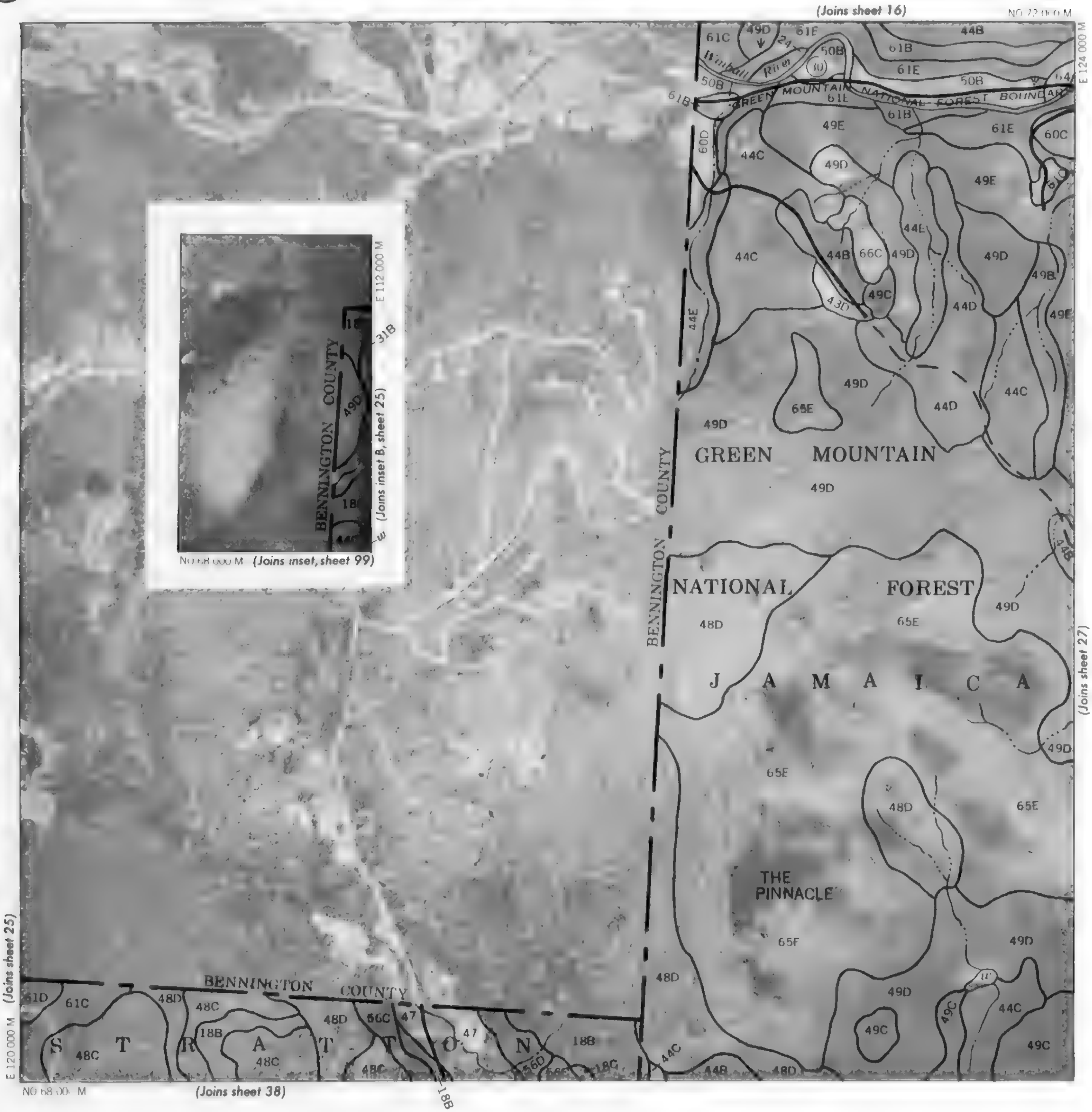


SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

N



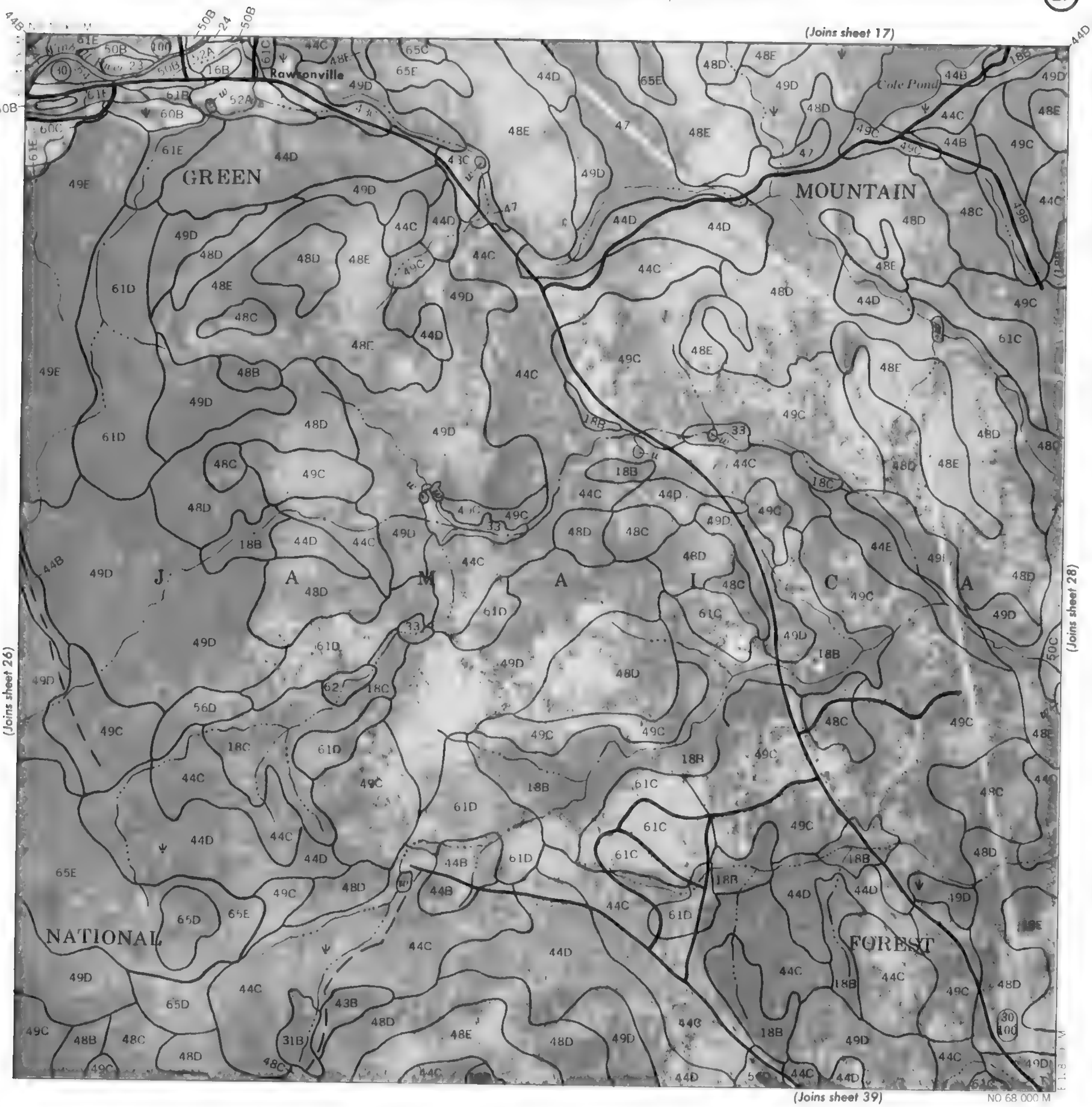
SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

N

...il survey map was compiled by the U.S. Department of Agriculture, ...ice, and cooperating agencies. Base maps are orthophotographs prepared by the Division of Property Valuation and Review, State of Vermont from 1975 aerial photography. The sheets are divided into a 4000 meter interval on the Vermont Coordinate System. The grid or ...ge is in 500 meter interval.

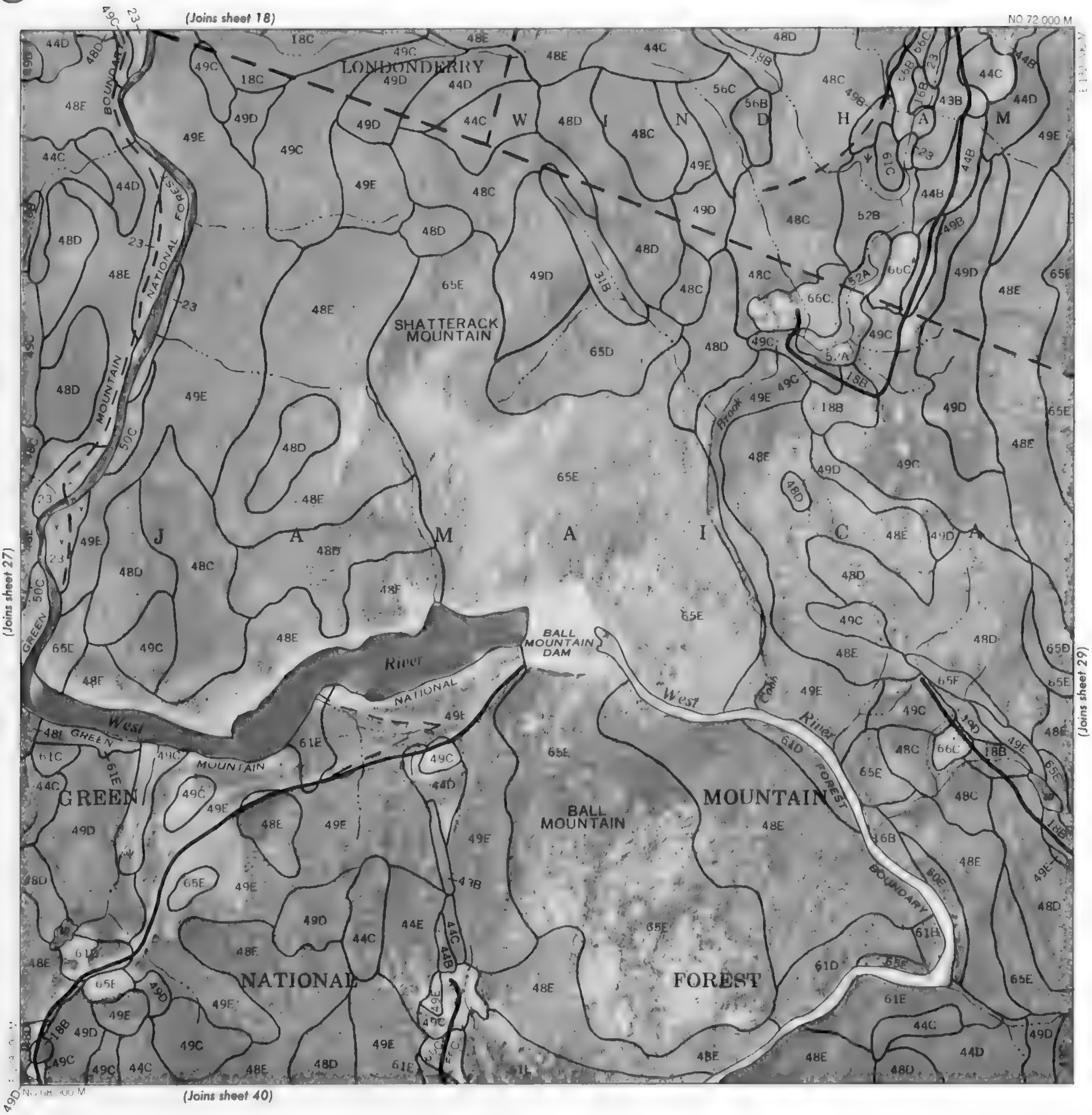


SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

N



SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

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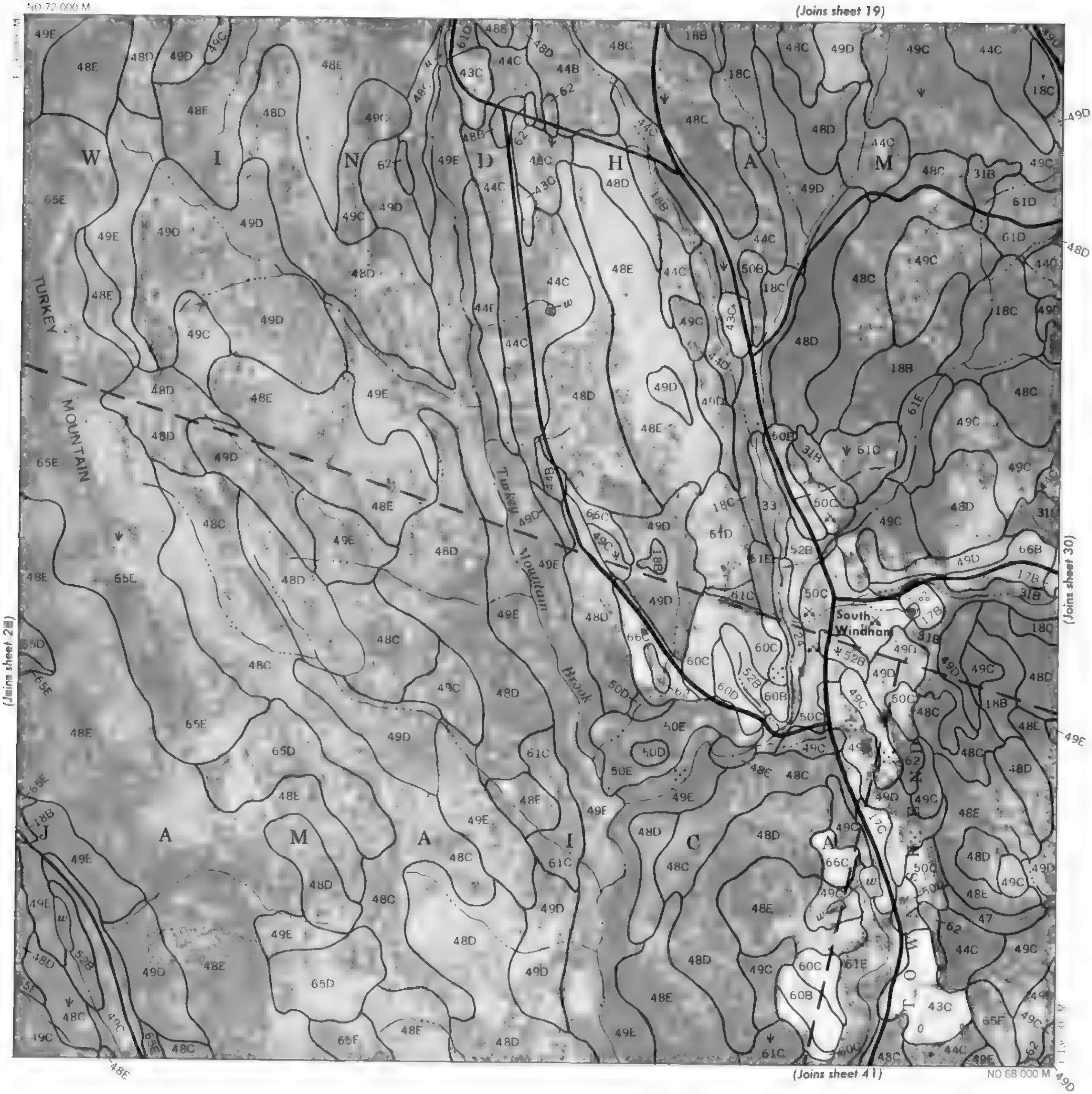

SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

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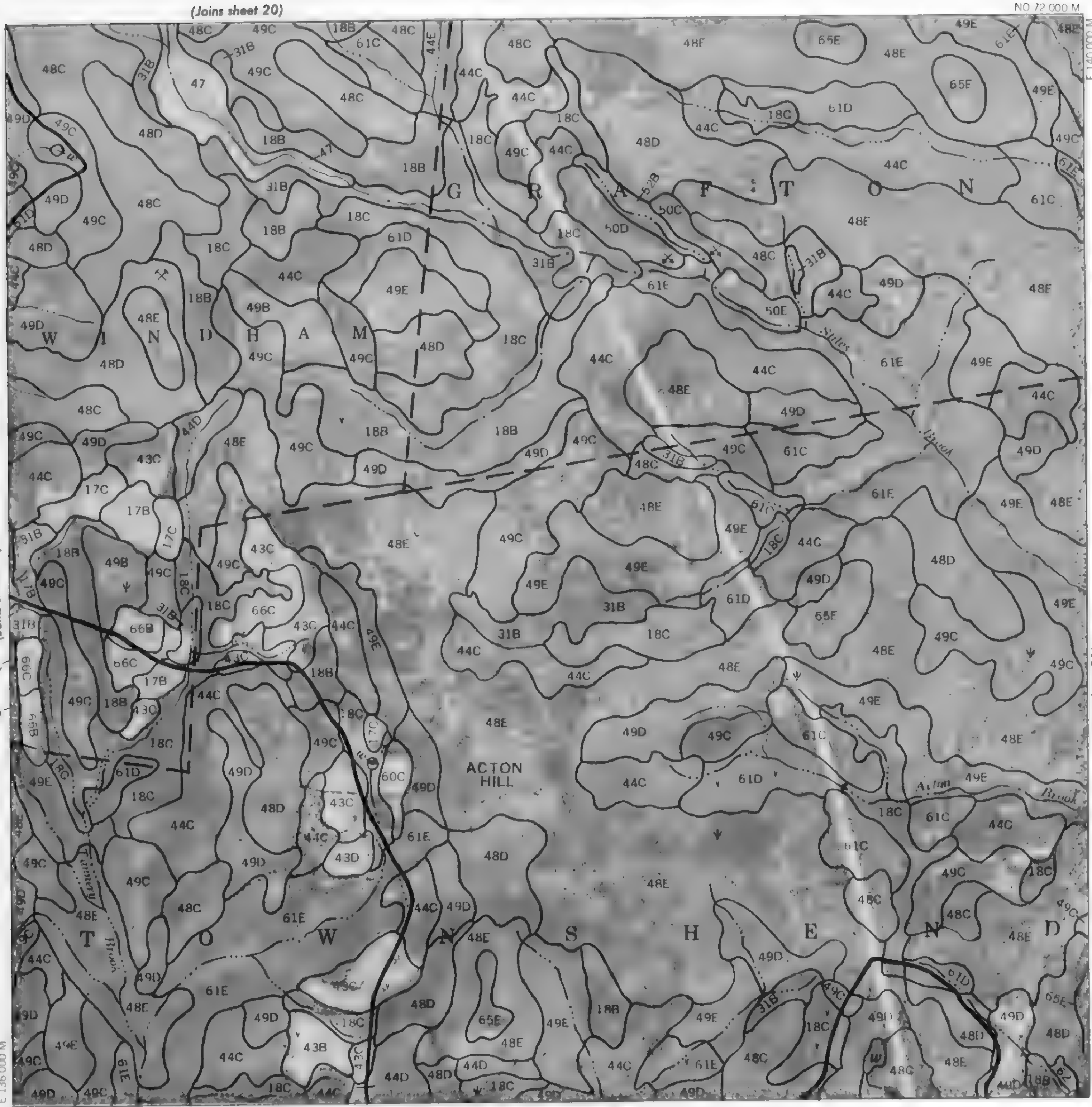
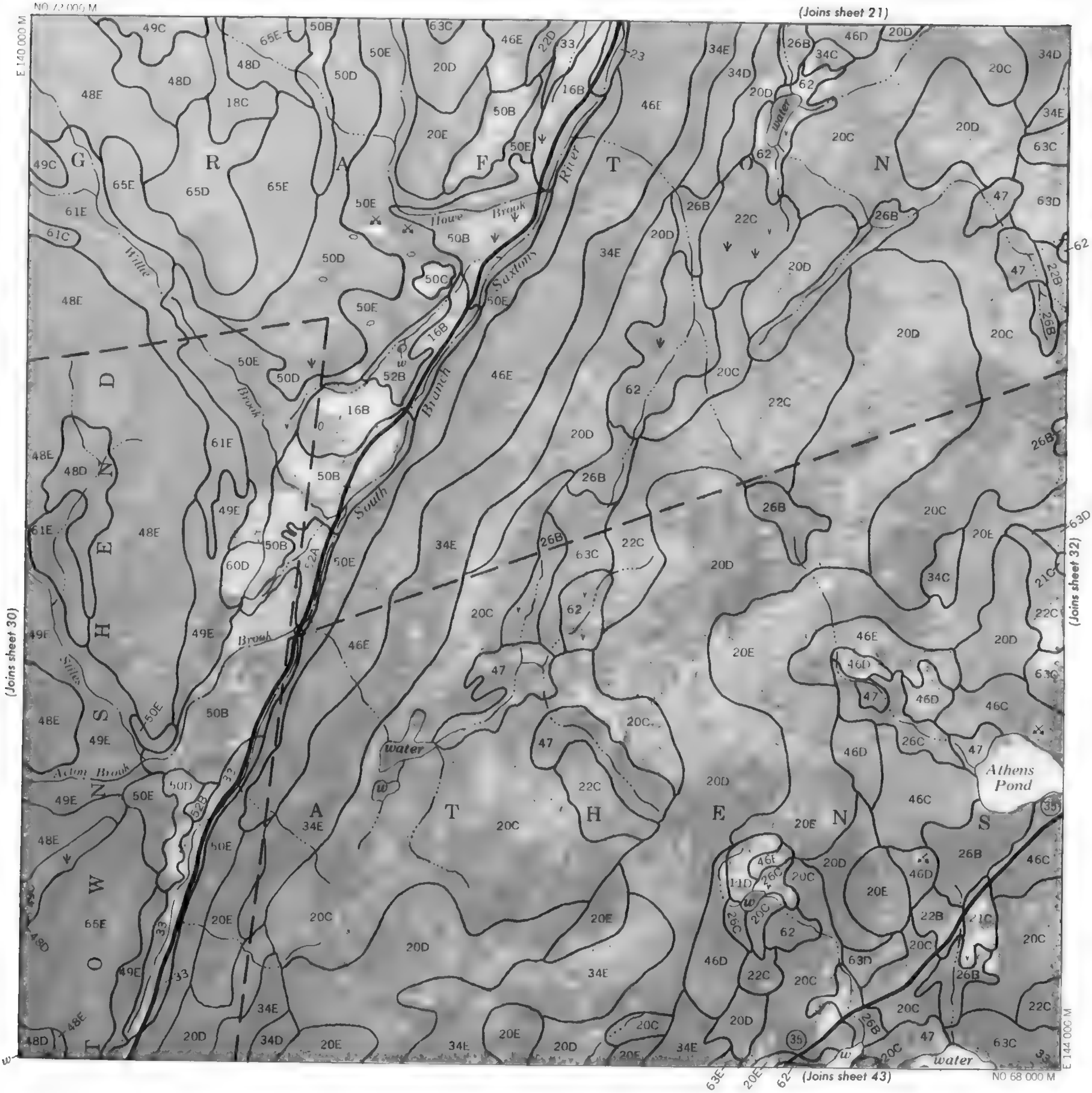


SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer



SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

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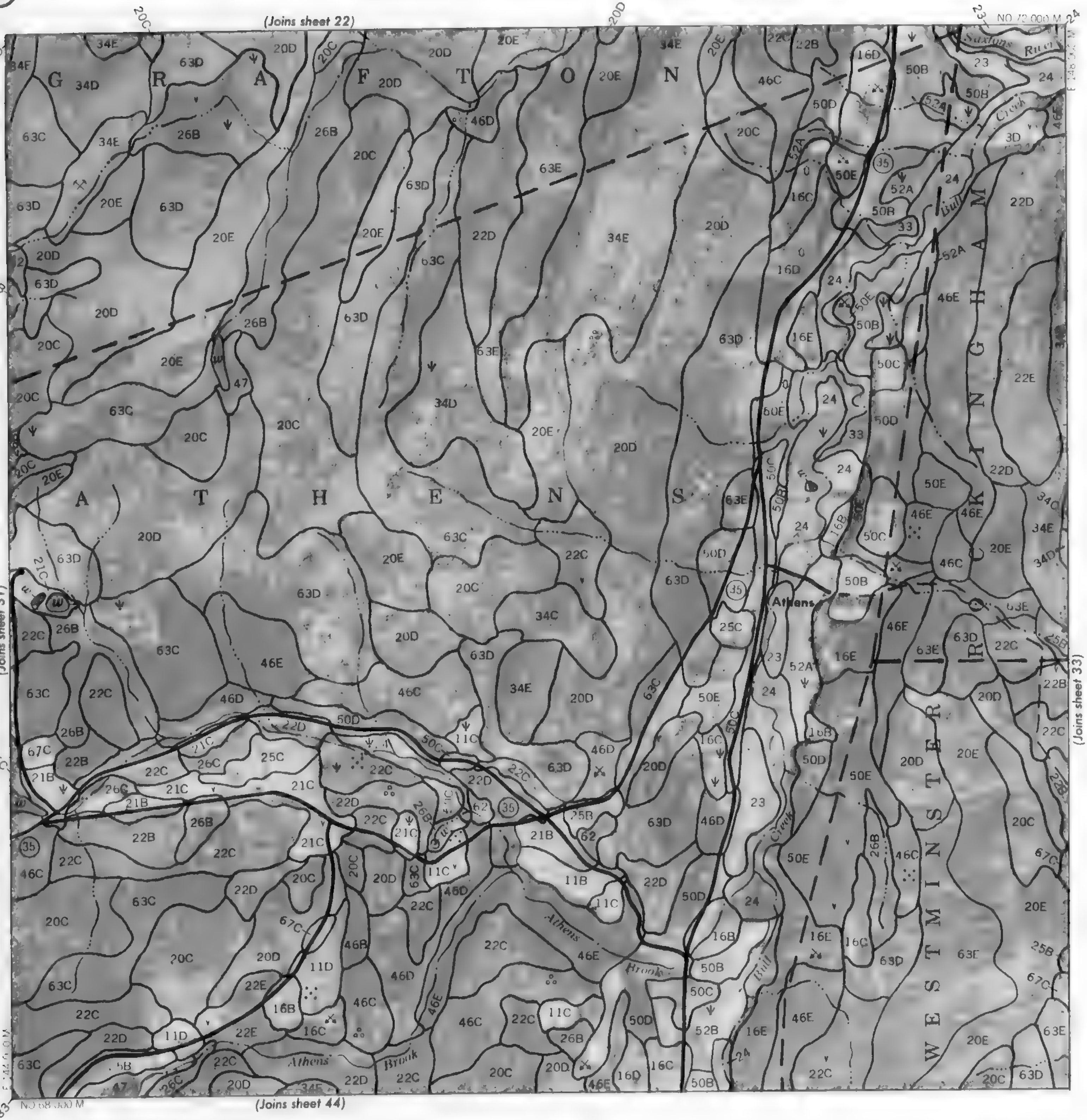
The soil survey was compiled by the U S Department of Agriculture, Soil Conservation Service, and cooperating agencies Base maps are orthophotographs prepared by the Division [illegible]erty Valuation and Review, State of Vermont from 1975 aerial photography The [illegible] on the Vermont Coordinate System The g[illegible] photo image is in a 500 meter interval



SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

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SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

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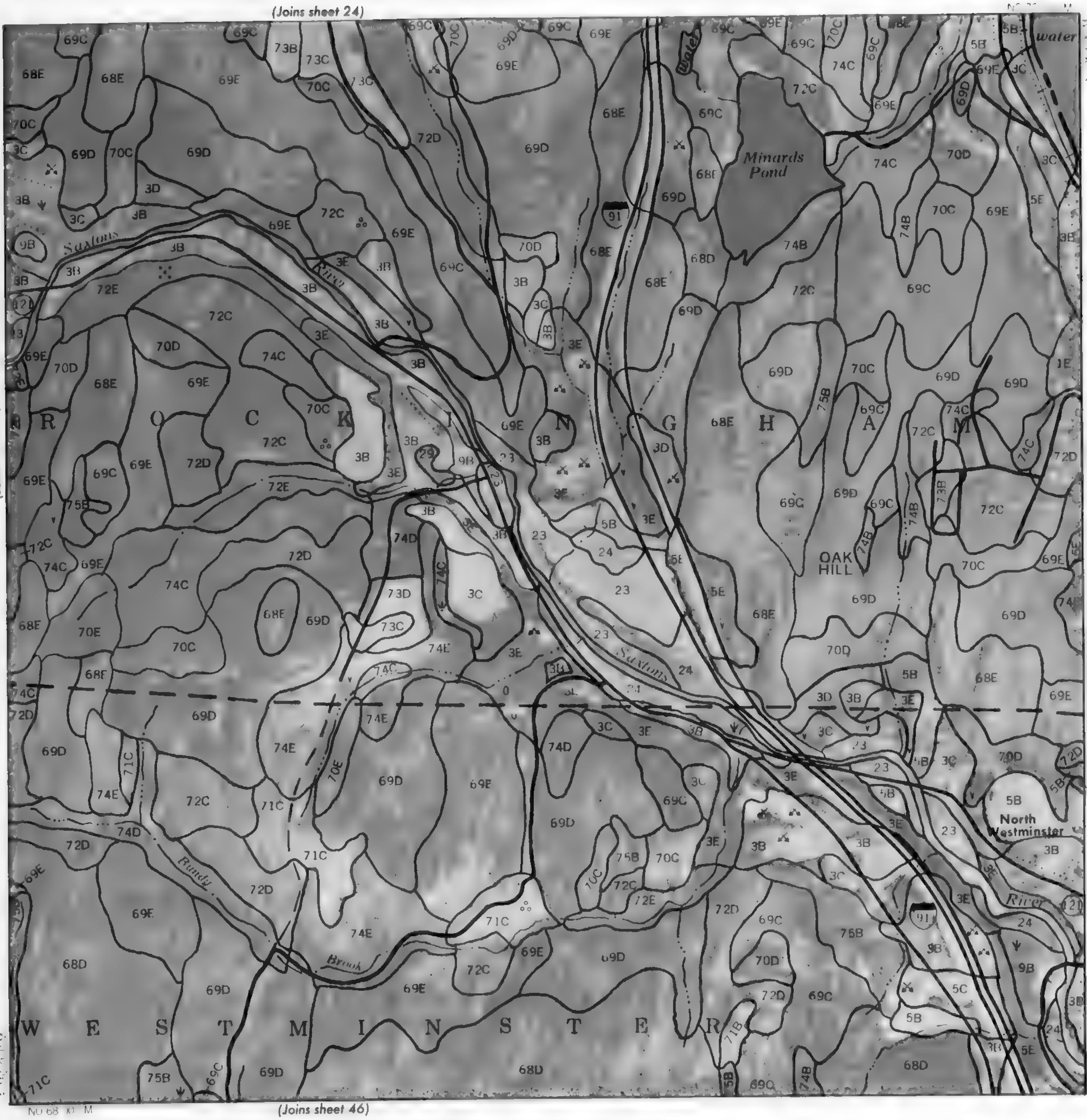
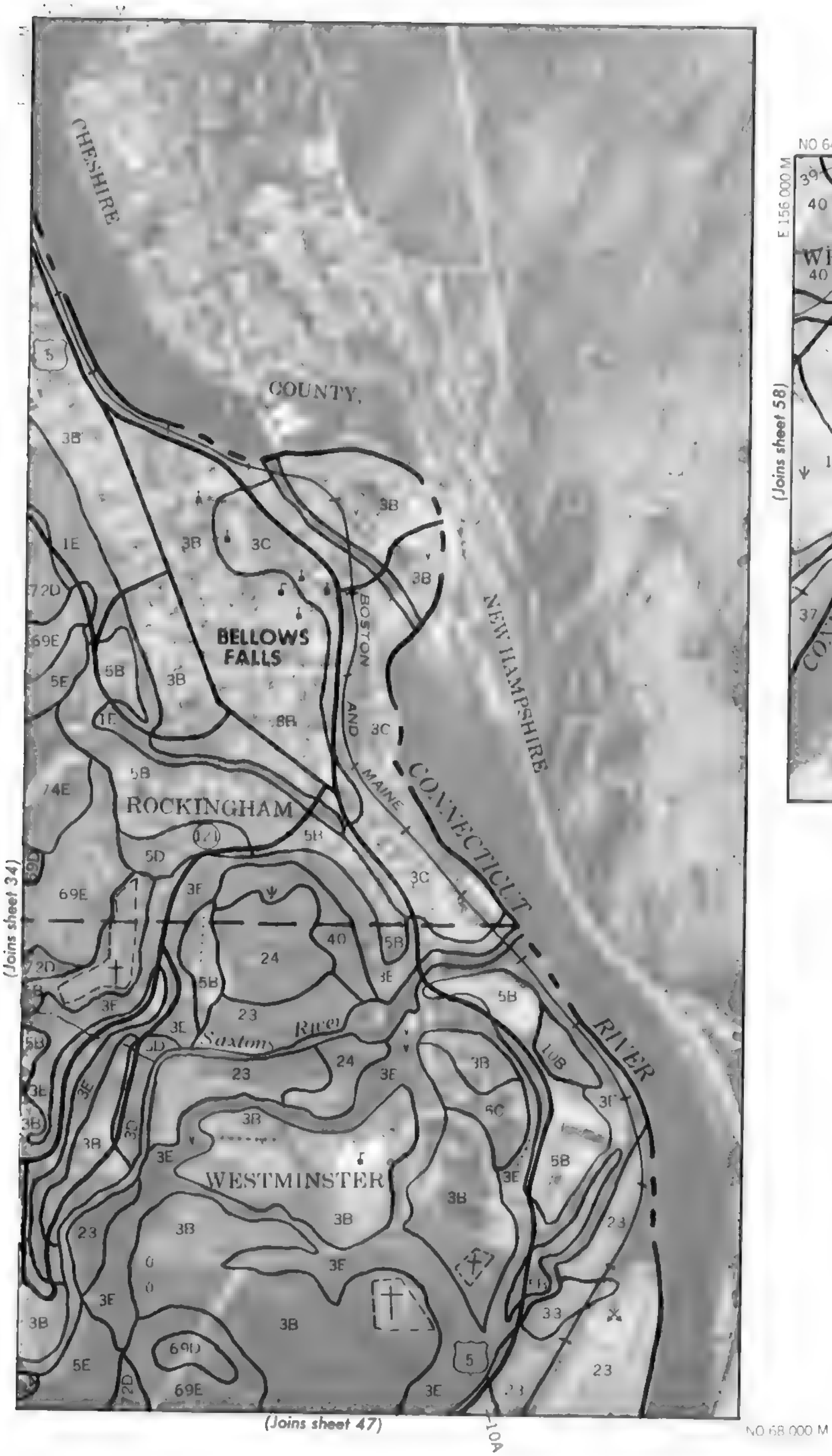


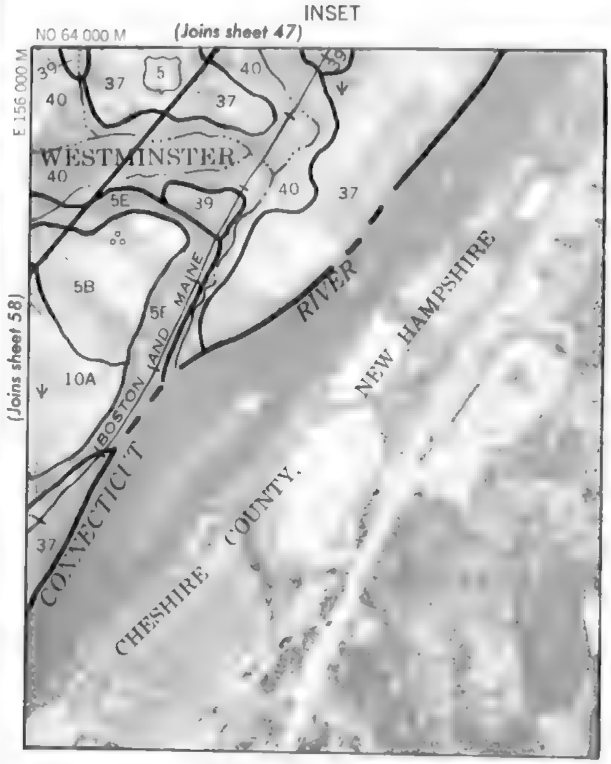
SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

N





SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

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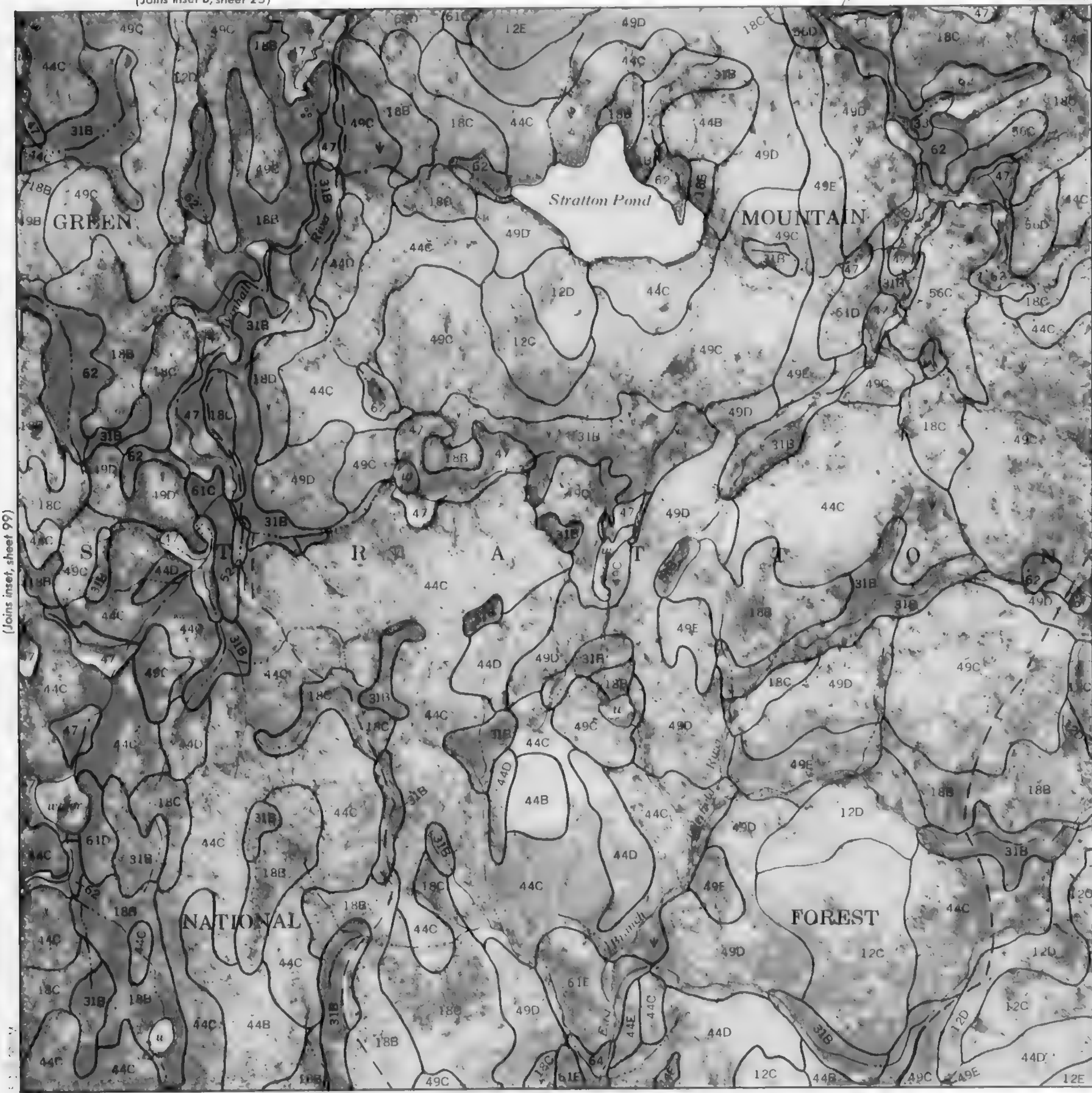
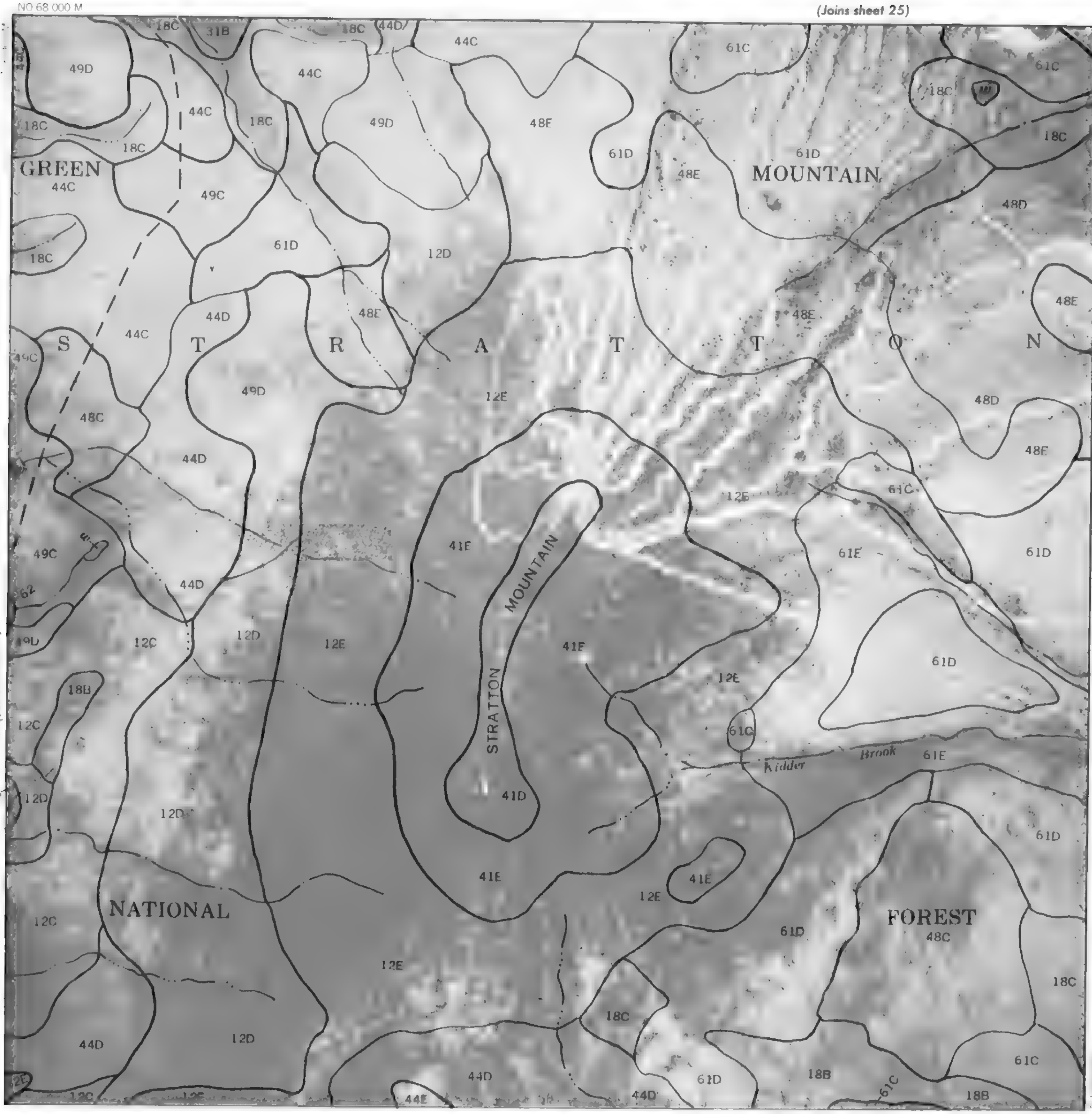


SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

N

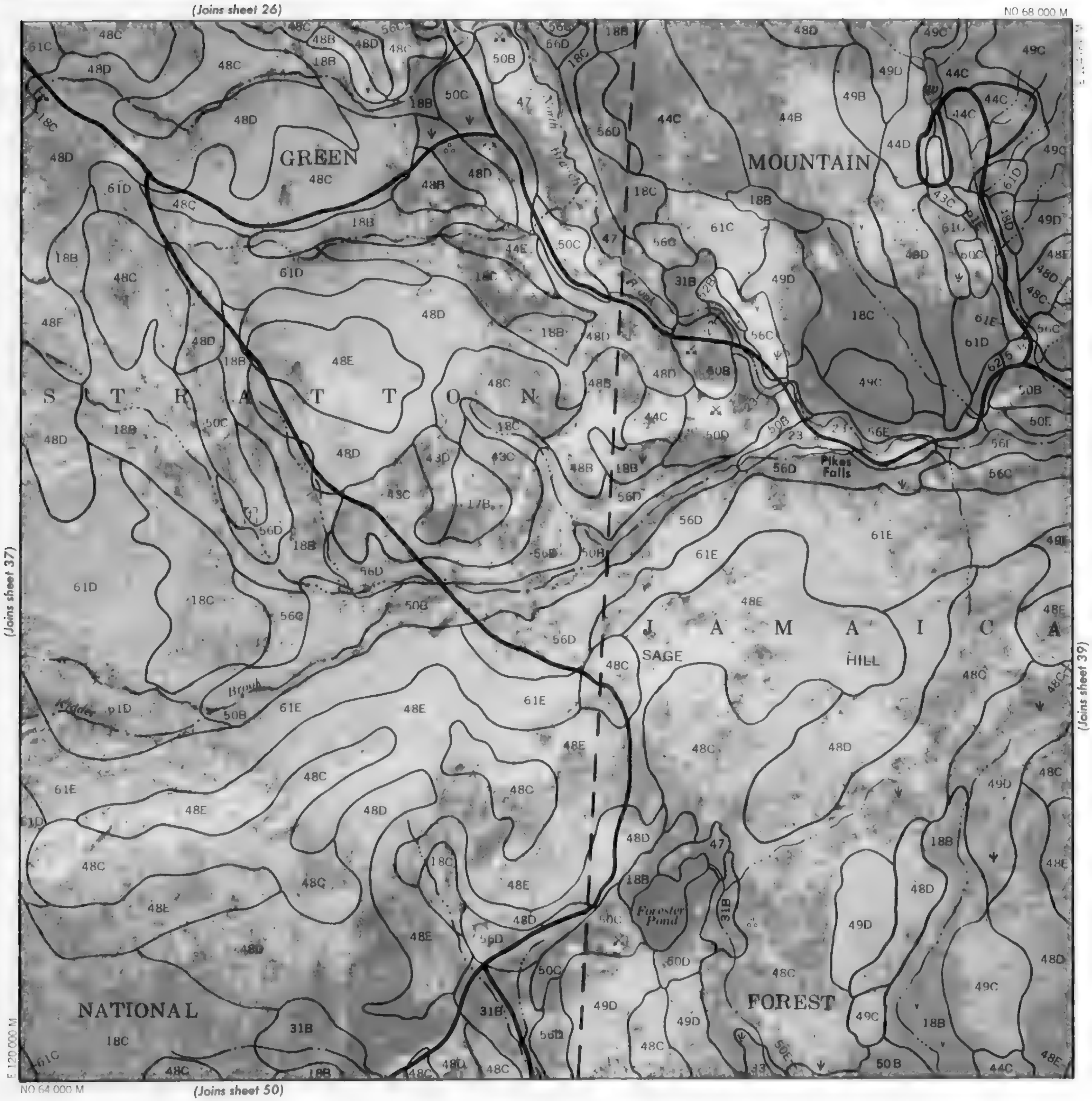


SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

N



SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

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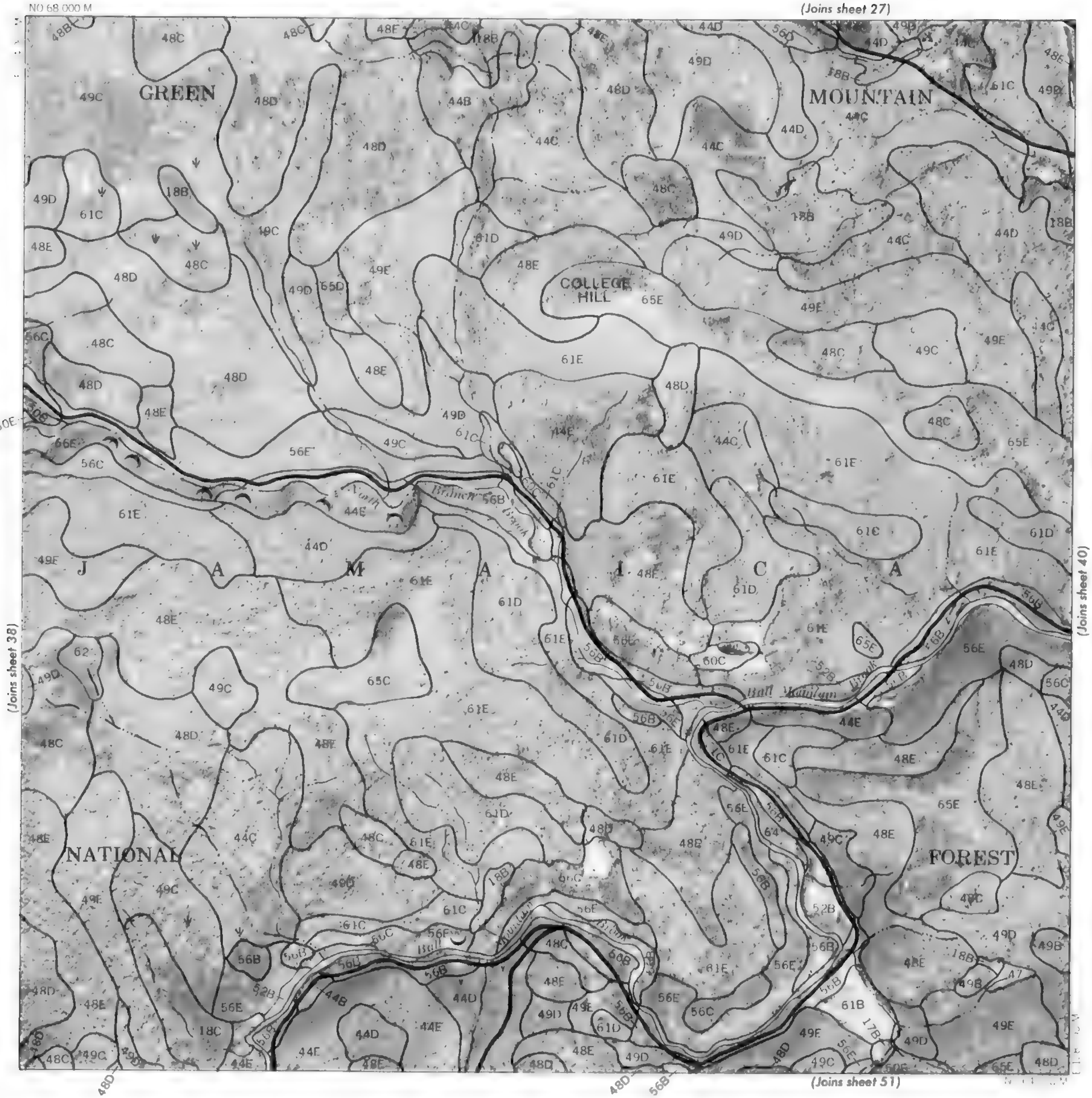

SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

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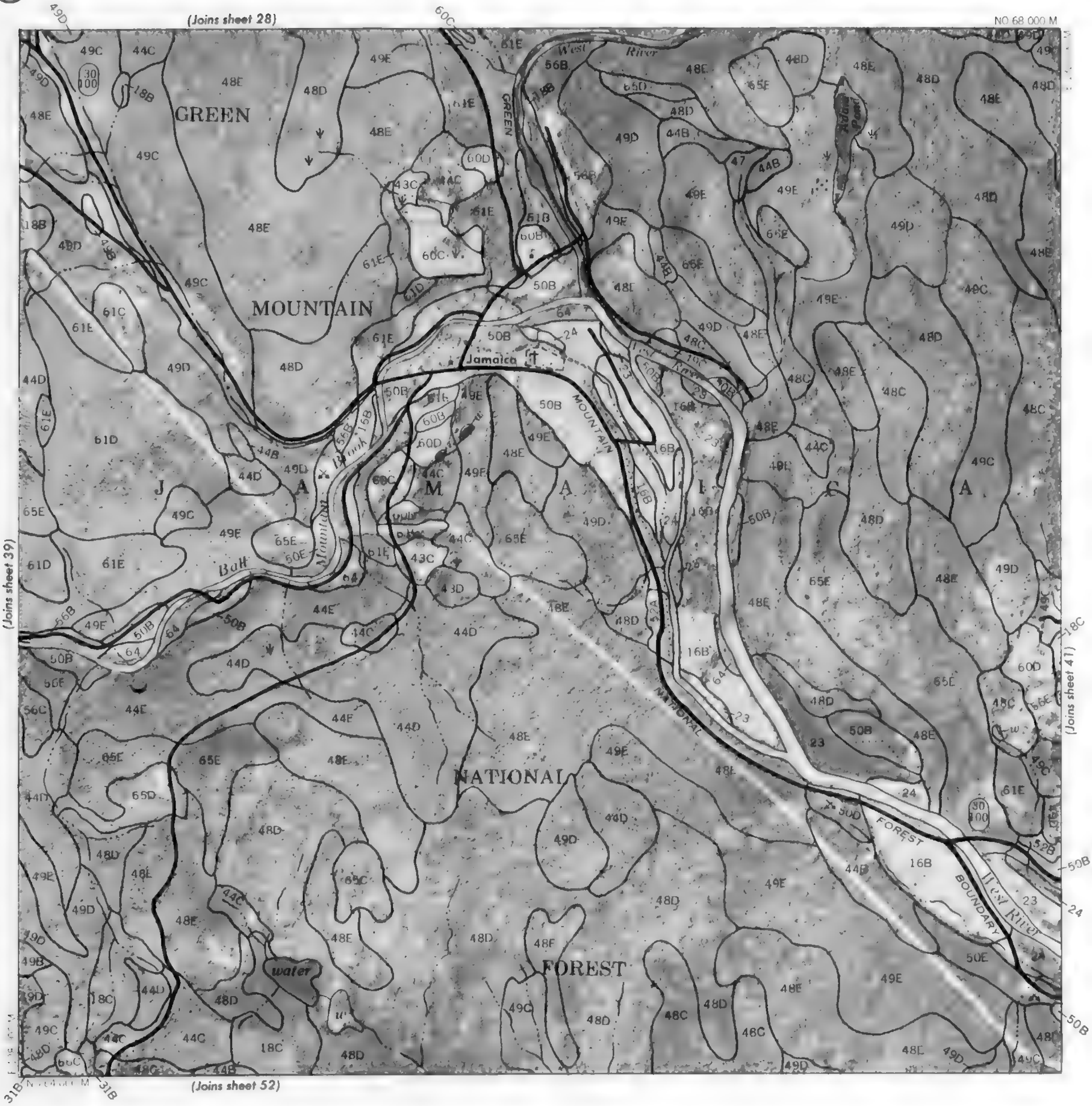

SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

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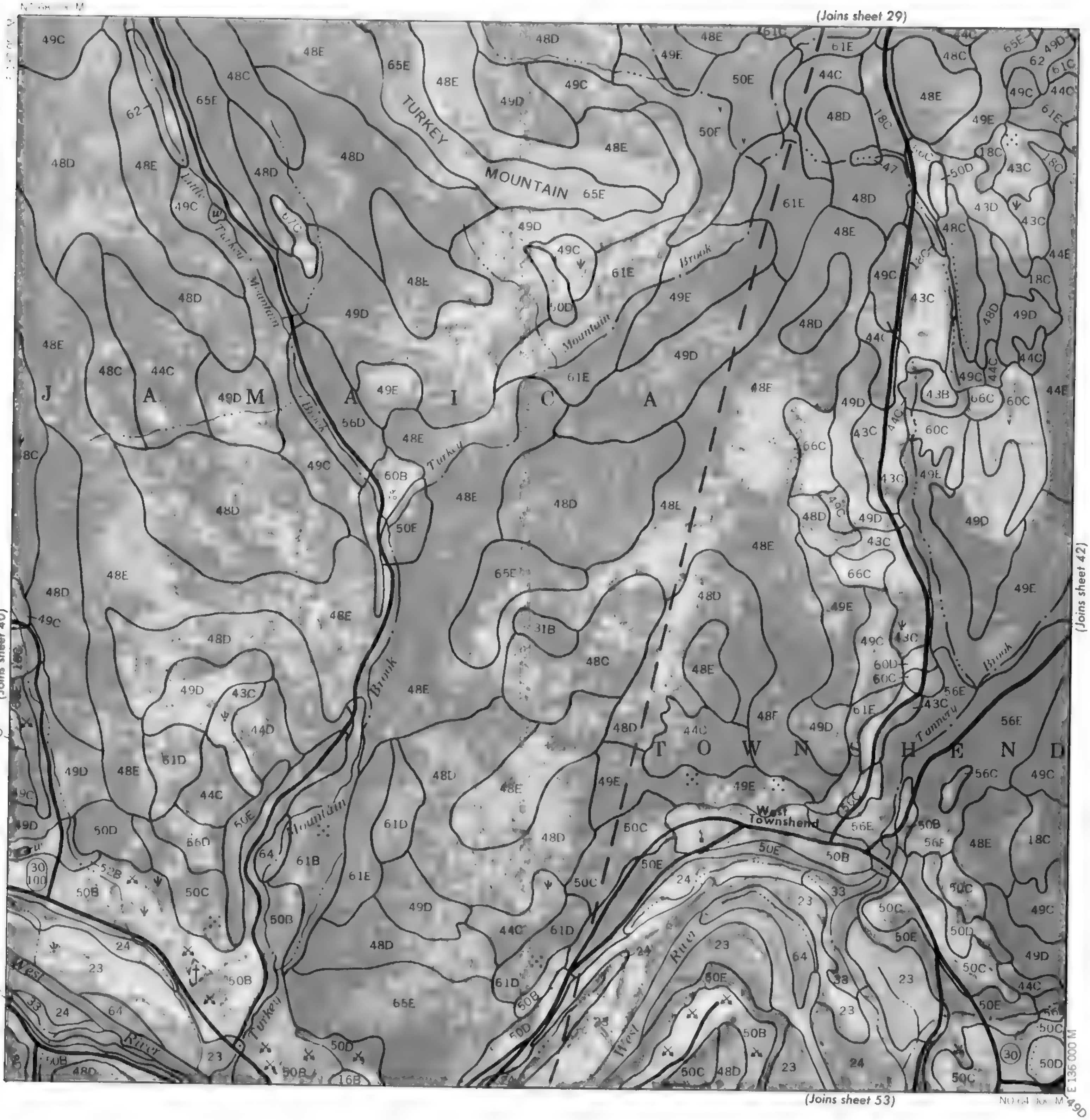

SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

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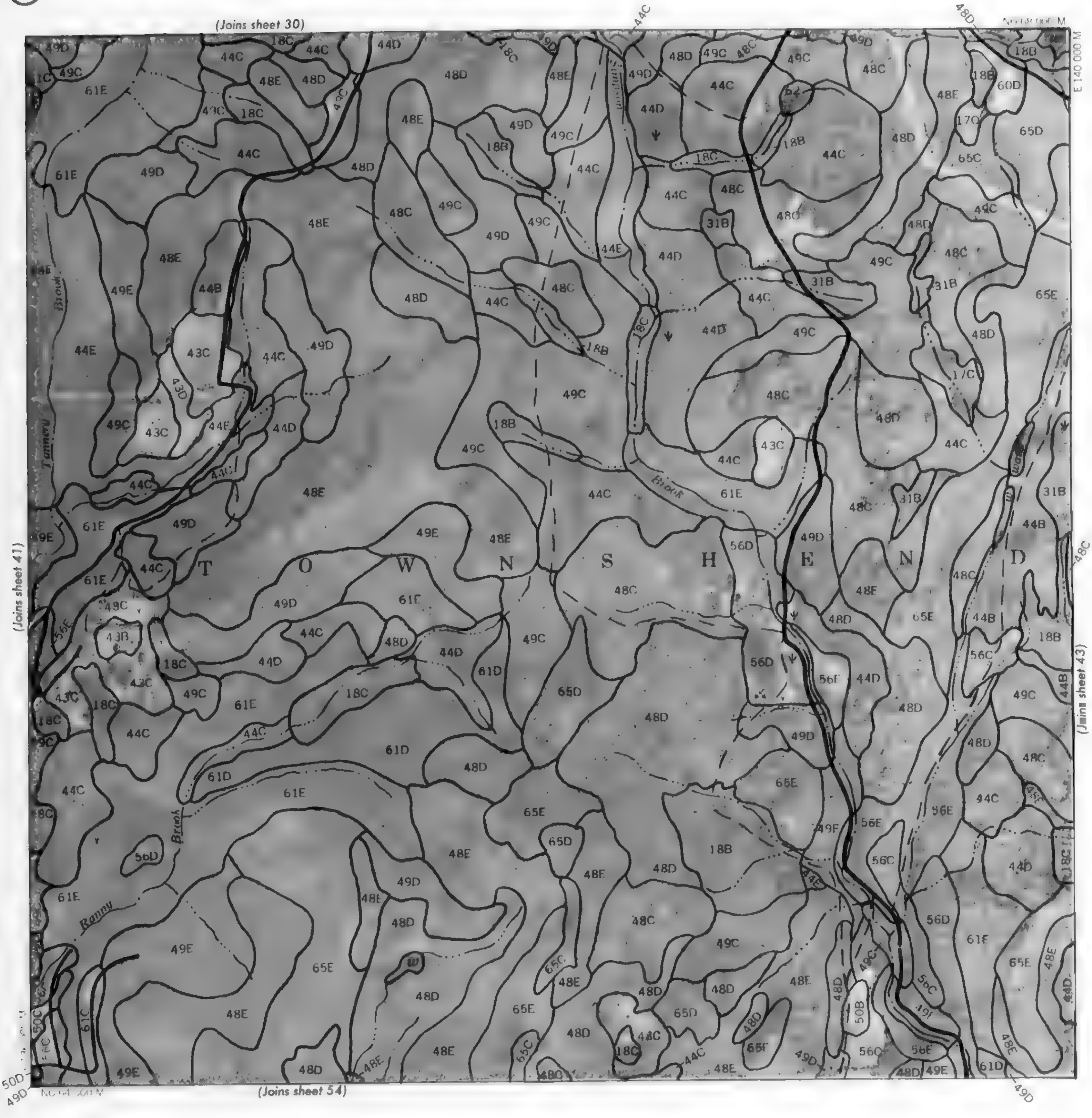

SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

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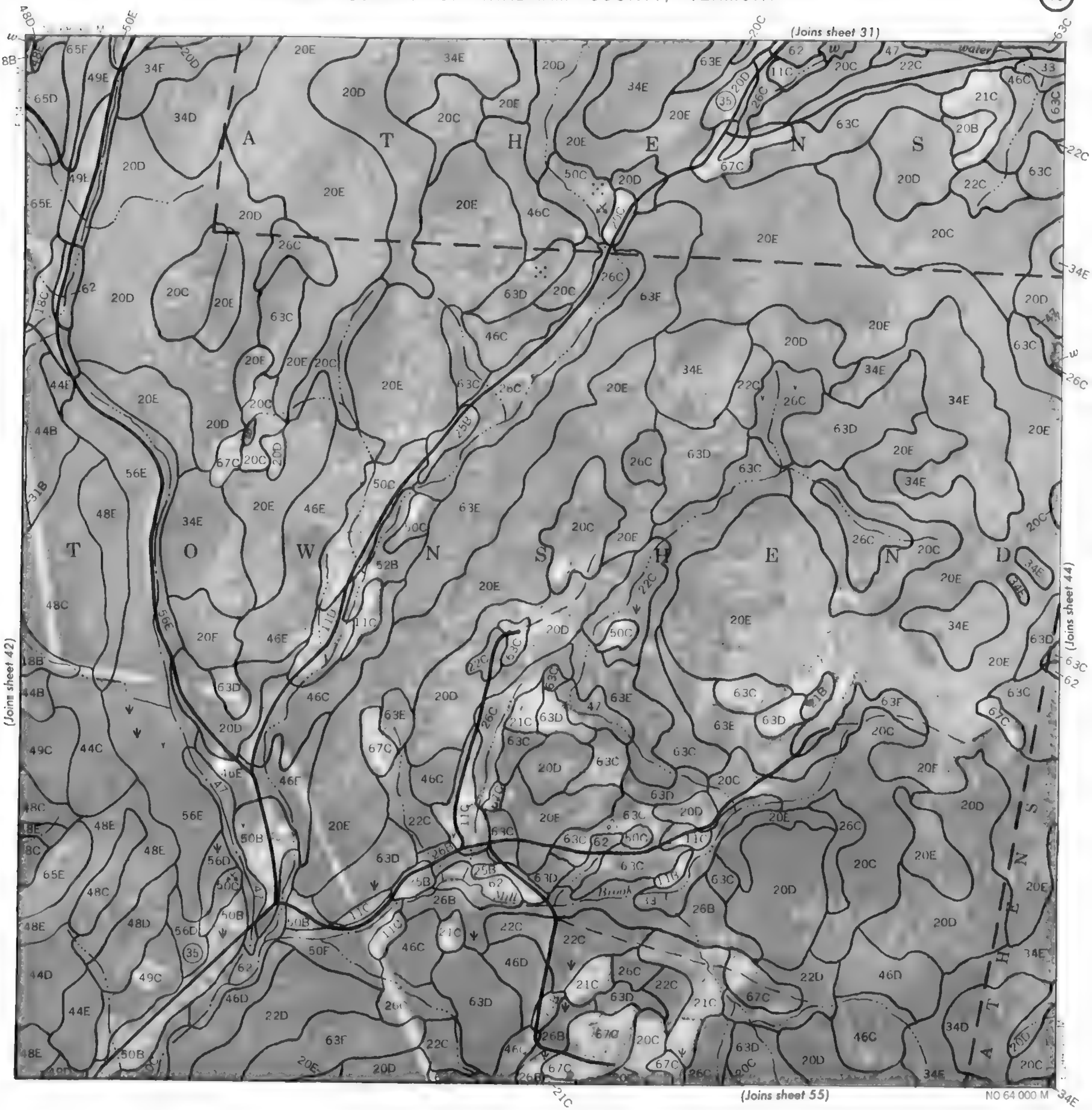

SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

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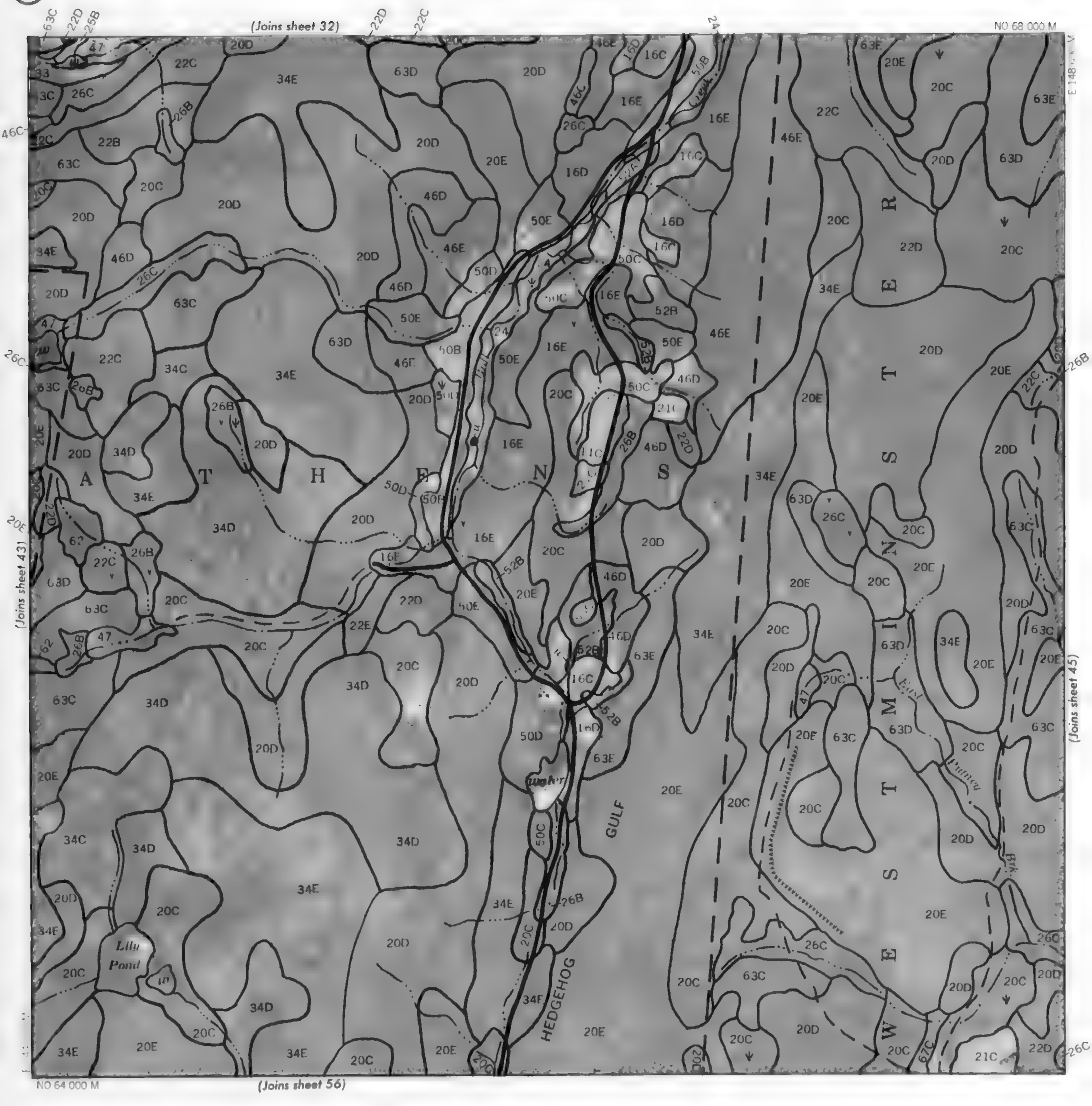

SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

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SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

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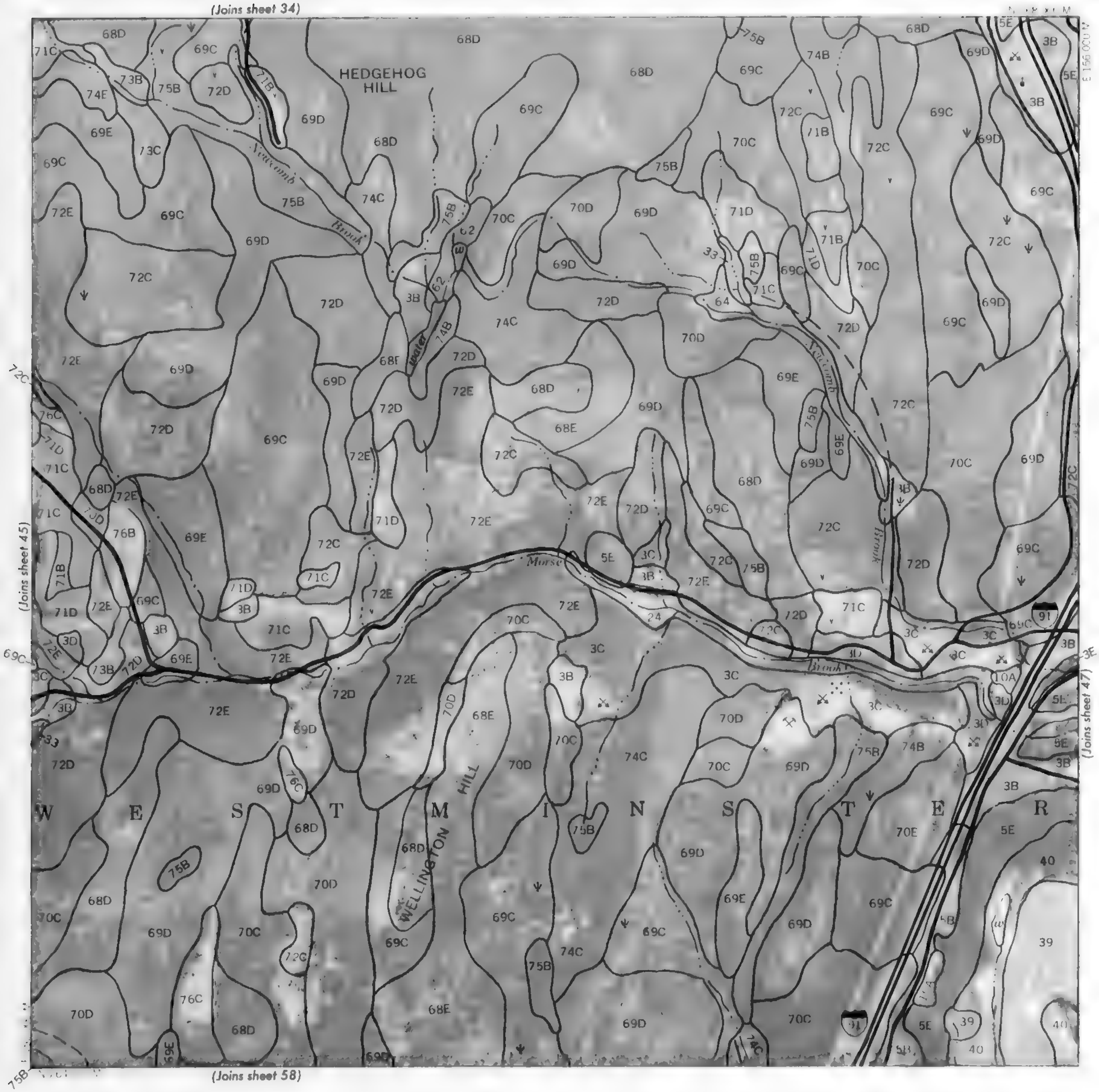

SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

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SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

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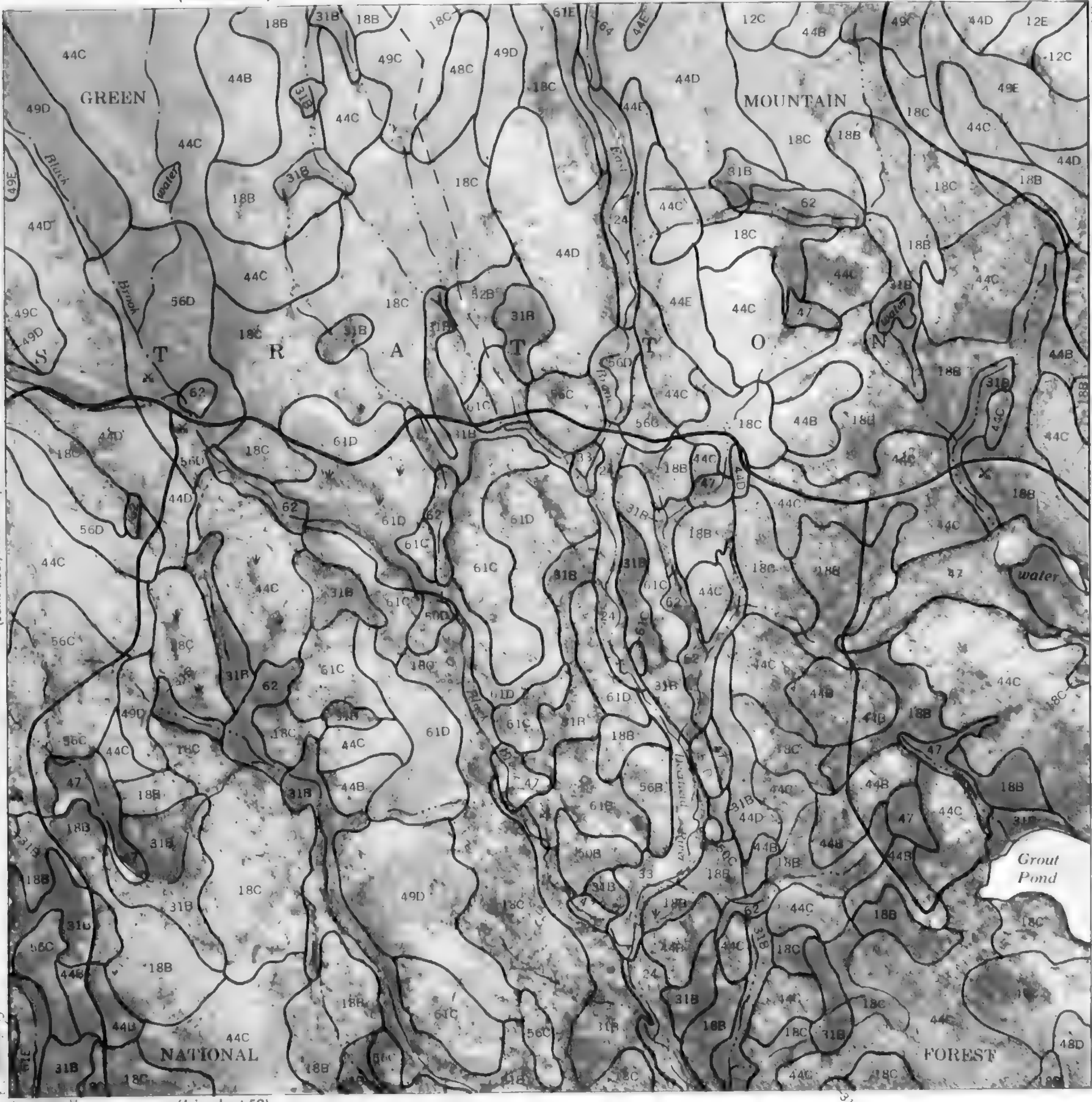
The soil survey was compiled by the U.S. Department of Agriculture, Soil Conservation Service and cooperating agencies. Base maps are orthophotographs pre[illegible] of Property Valuation and Review, State of Vermont from 1975 aerial photography. The map [illegible]ts are divided into 4000 meter interval on the Vermont Coordinate System. The grid on the photo image is in a 500 meter interva



SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

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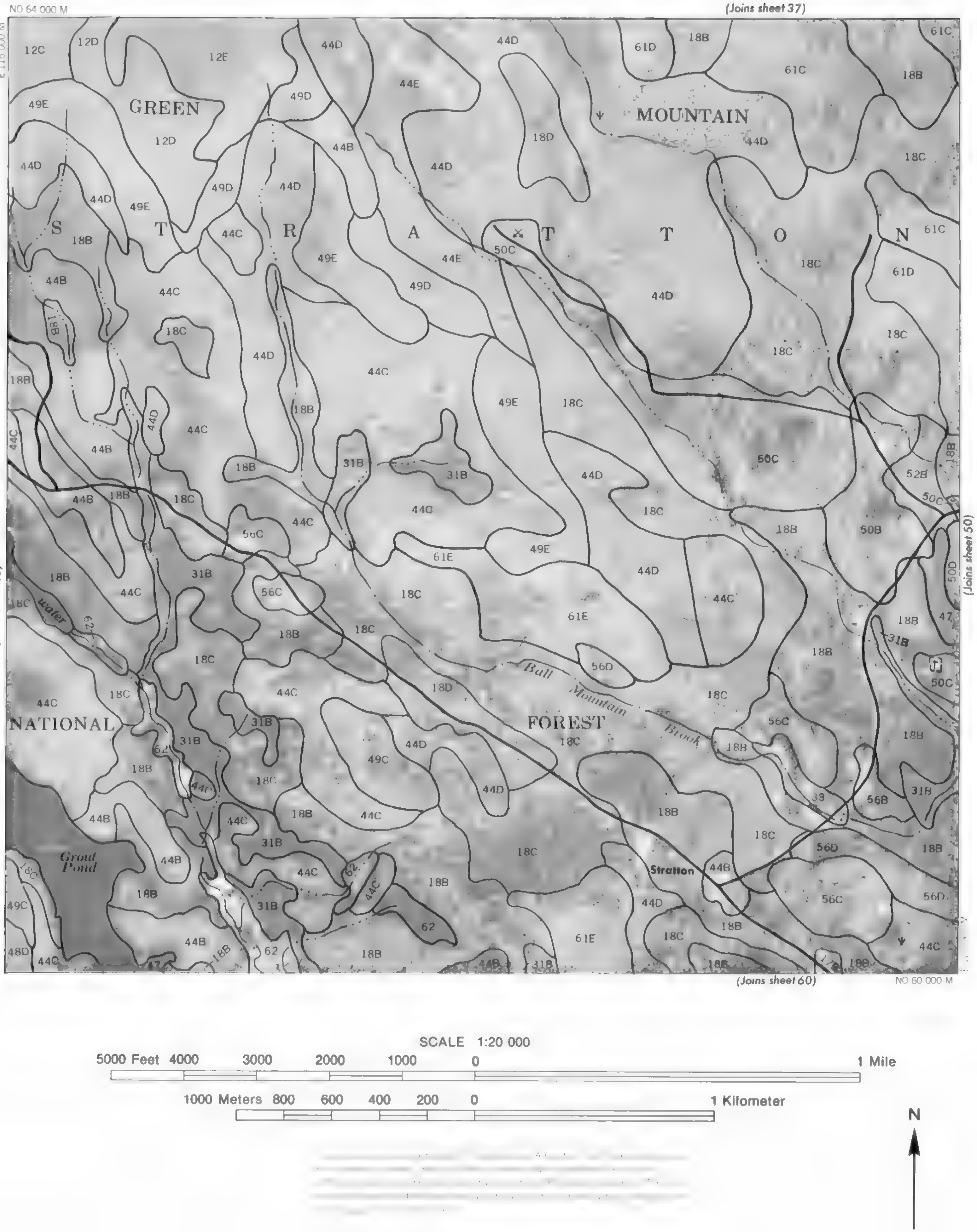
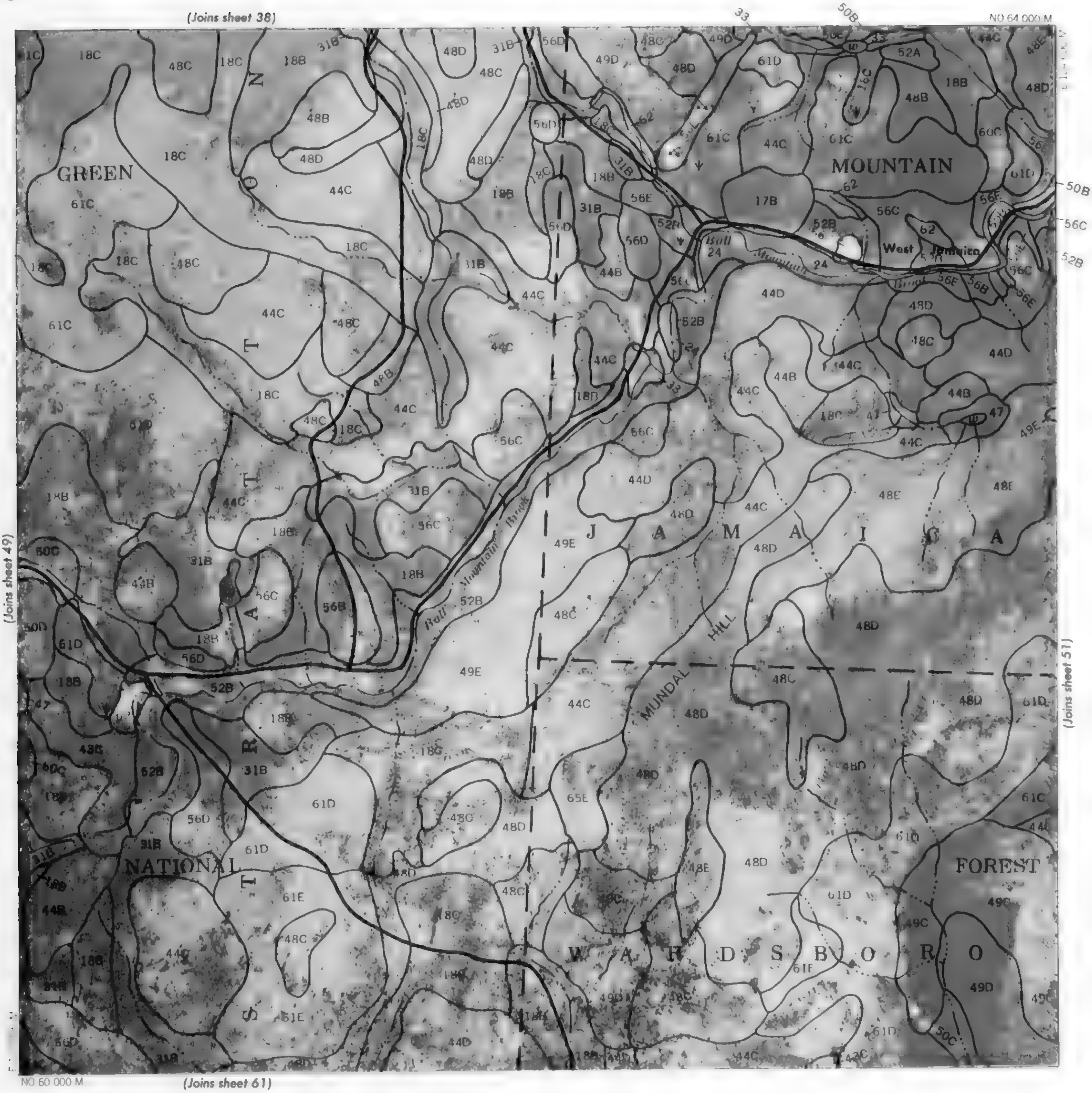

NO 64 000 M
(Joins sheet 37)
E 116 000 M
(Joins sheet 48)
(Joins sheet 50)
(Joins sheet 60)
NO 60 000 M
GREEN MOUNTAIN
STRATTON
NATIONAL FOREST
Ball Mountain Brook
Grout Pond
Stratton
water
SCALE 1:20 000
5000 Feet 4000 3000 2000 1000 0 1 Mile
1000 Meters 800 600 400 200 0 1 Kilometer
N



SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

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1000 Meters 800 600 400 200 0 1 Kilometer

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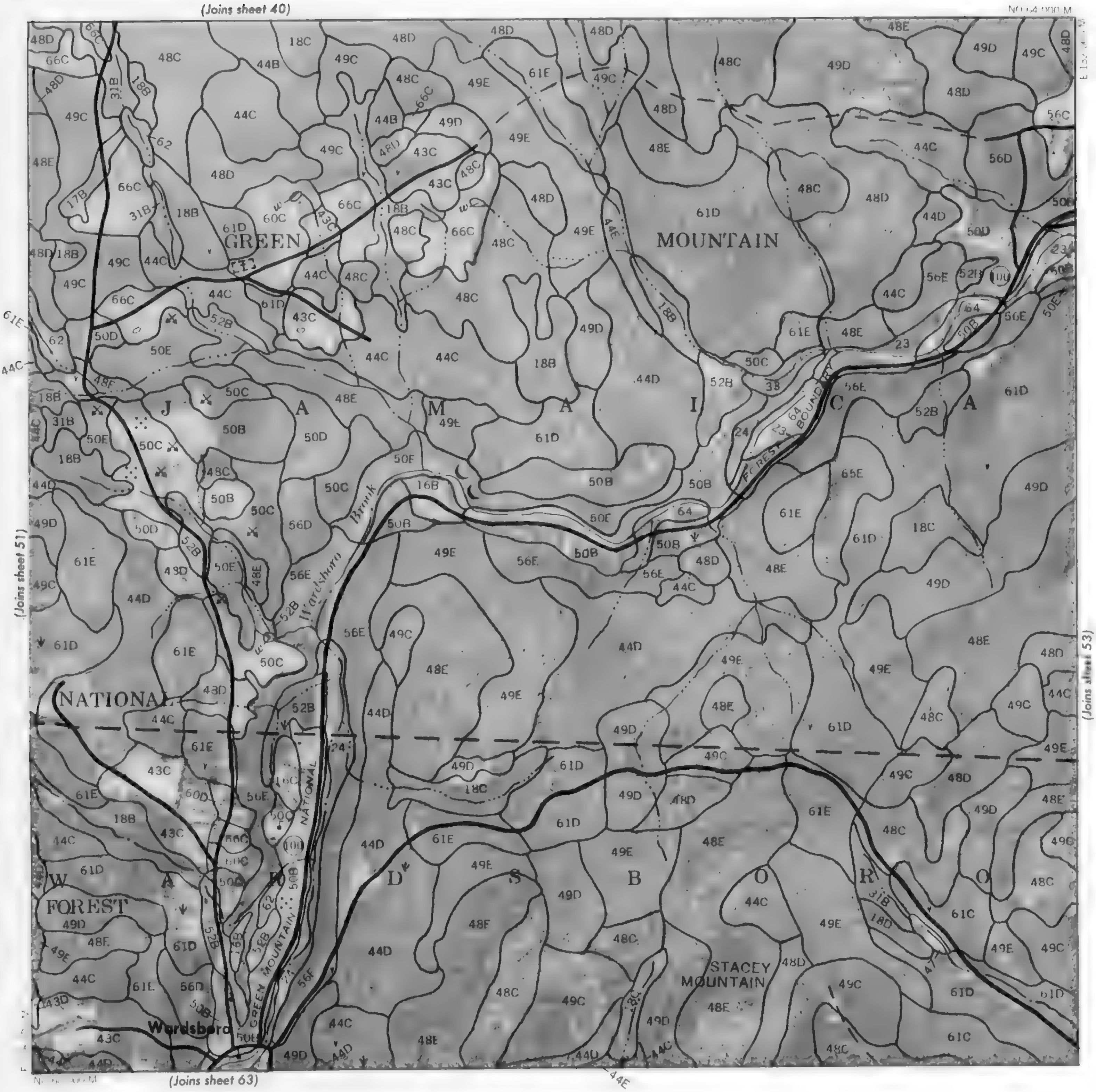

SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

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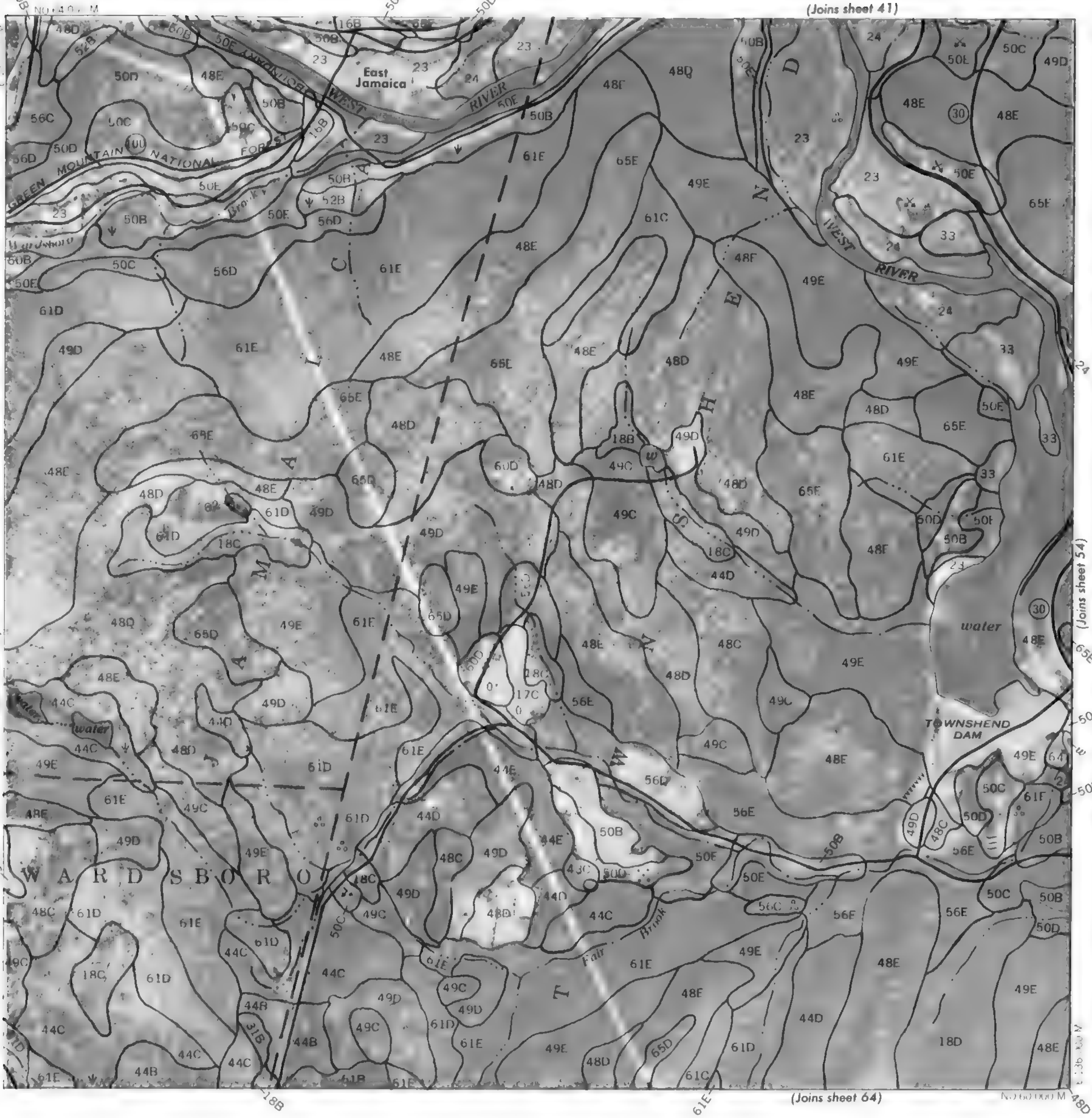

SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

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5000 Feet 4000 3000 2000 1000 0 1 Mile

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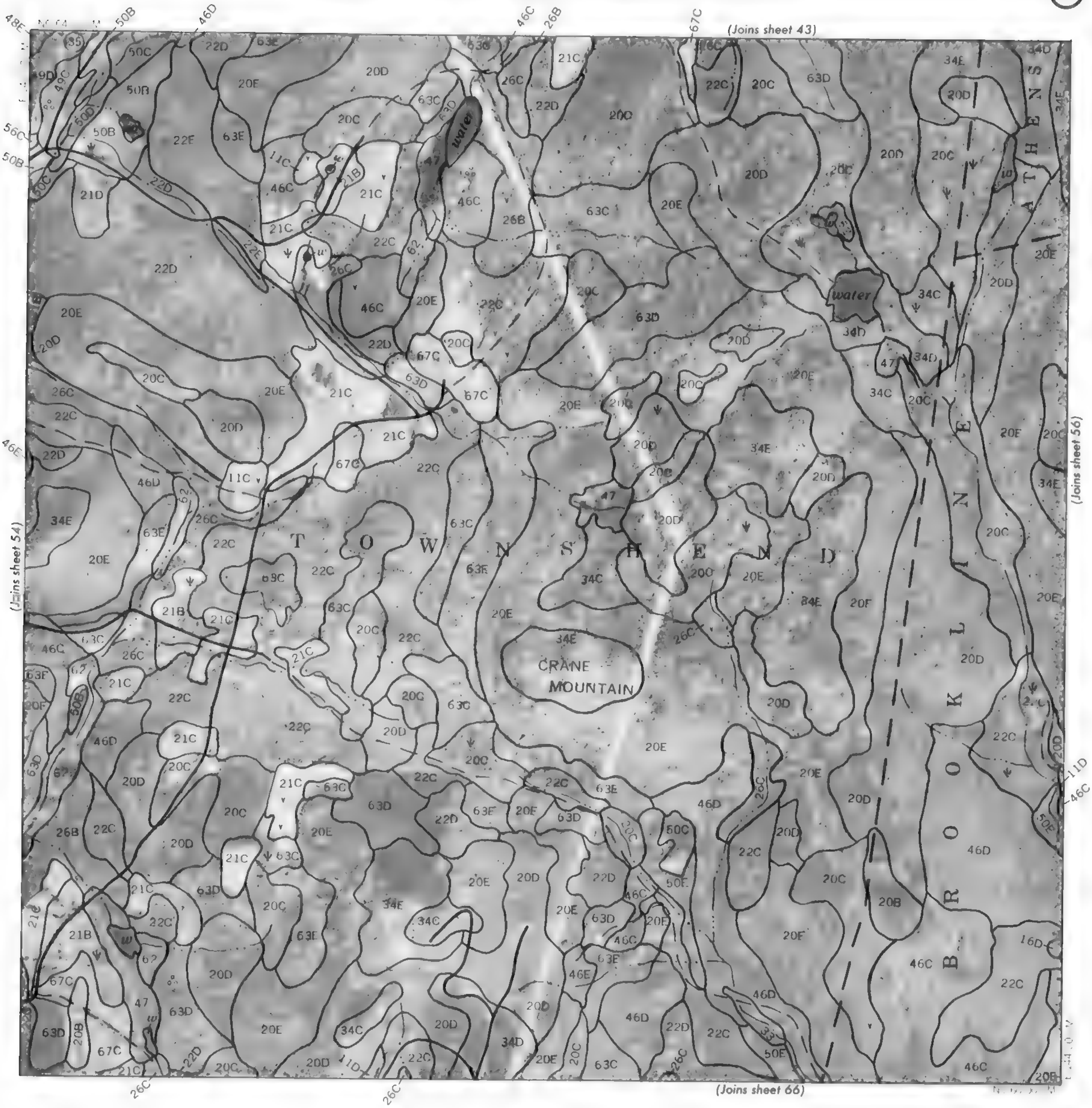

SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

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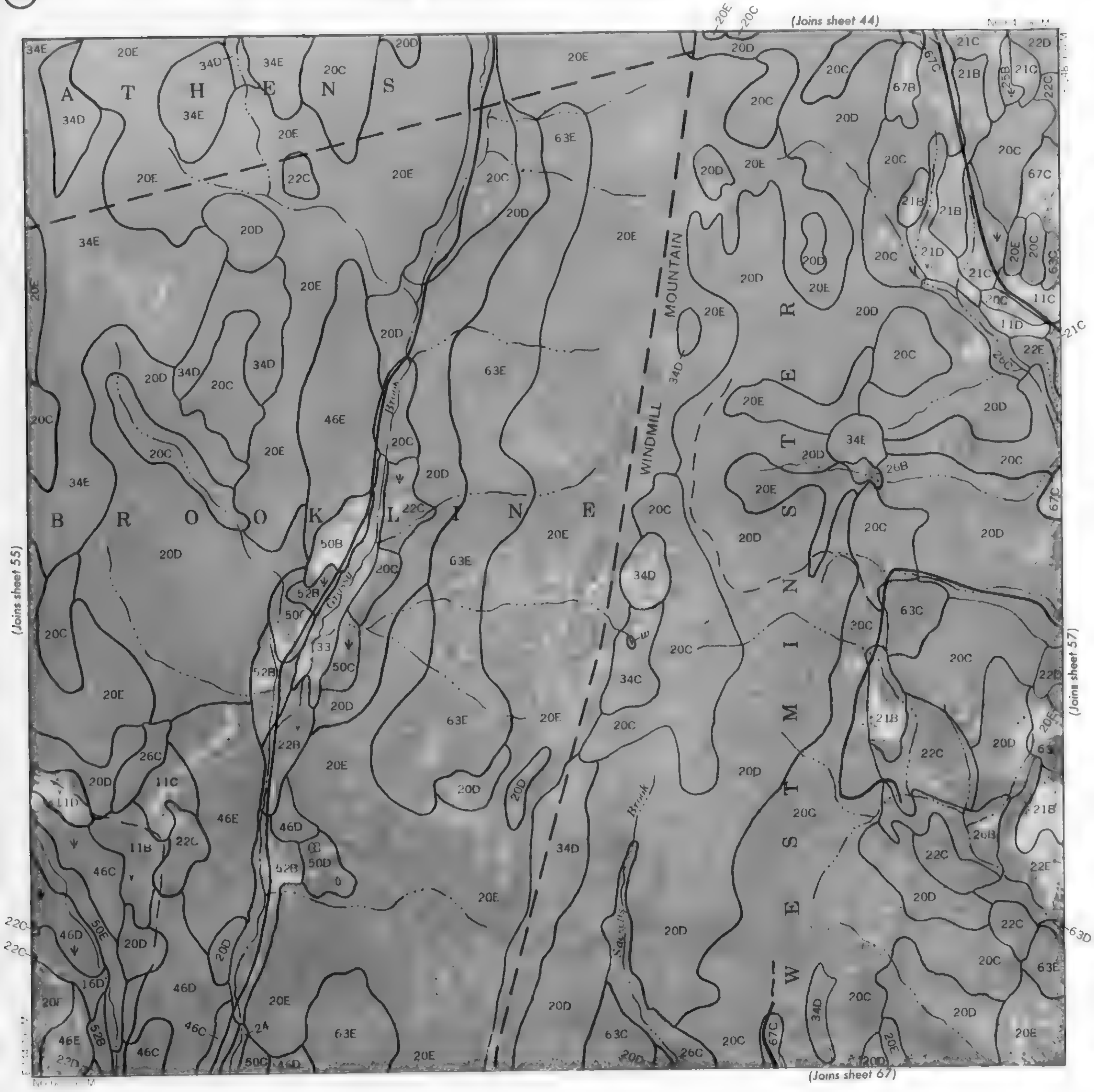

SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

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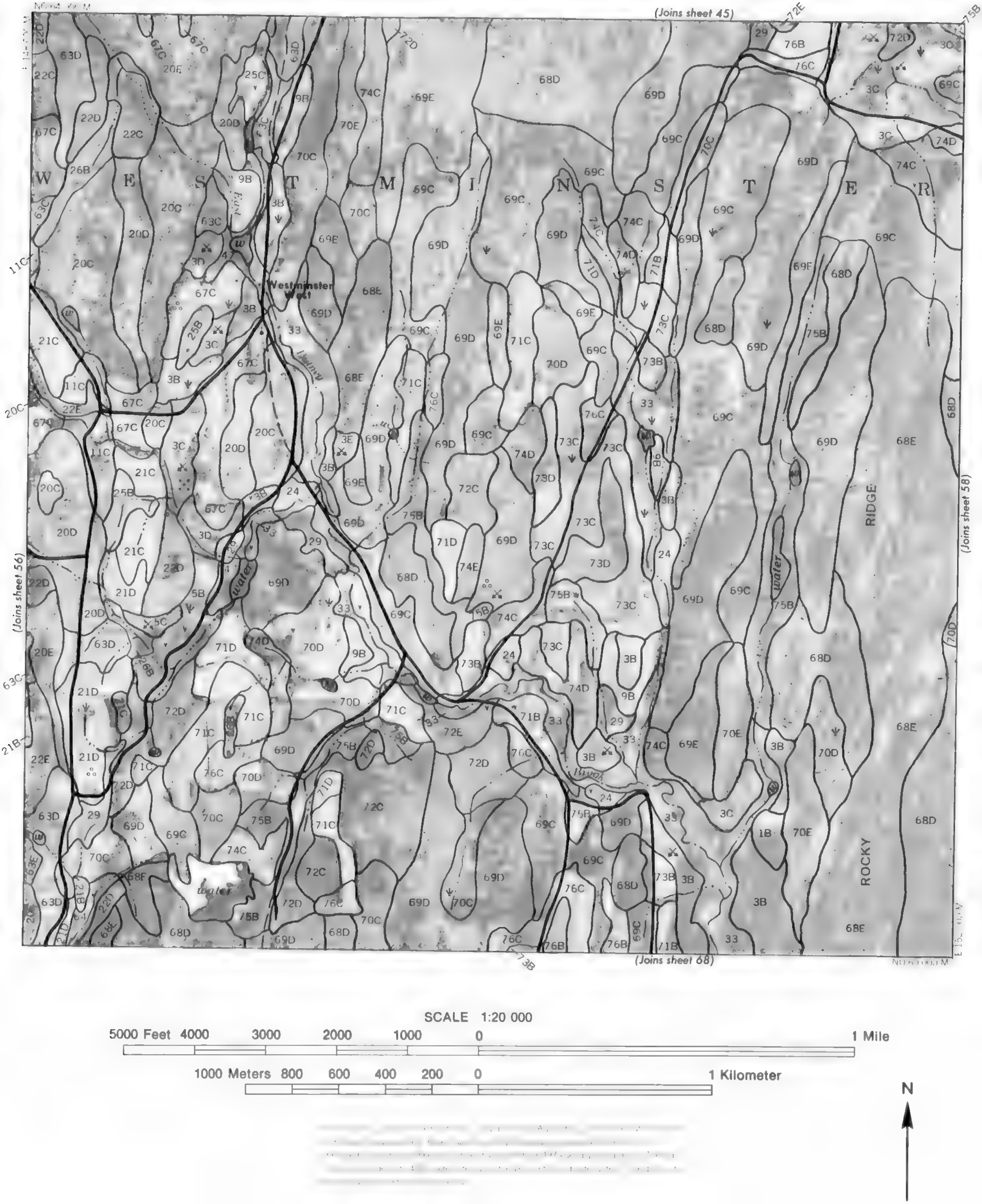
(Joins sheet 45)
(Joins sheet 56)
(Joins sheet 58)
(Joins sheet 68)
W E S T M I N S T E R
Westminster West
ROCKY
RIDGE
SCALE 1:20 000
5000 Feet 4000 3000 2000 1000 0 1 Mile
1000 Meters 800 600 400 200 0 1 Kilometer
N

SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

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SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

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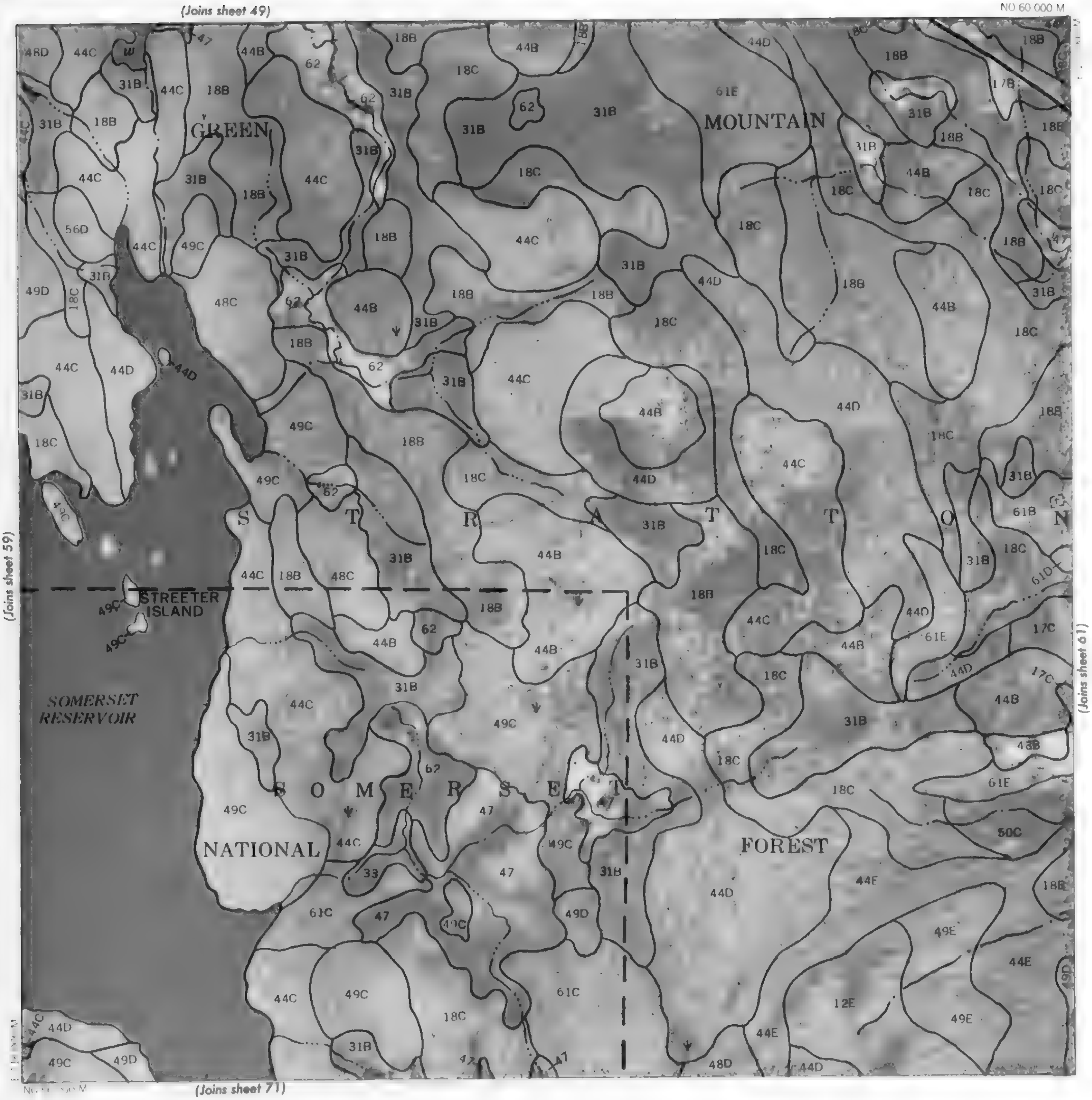

SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

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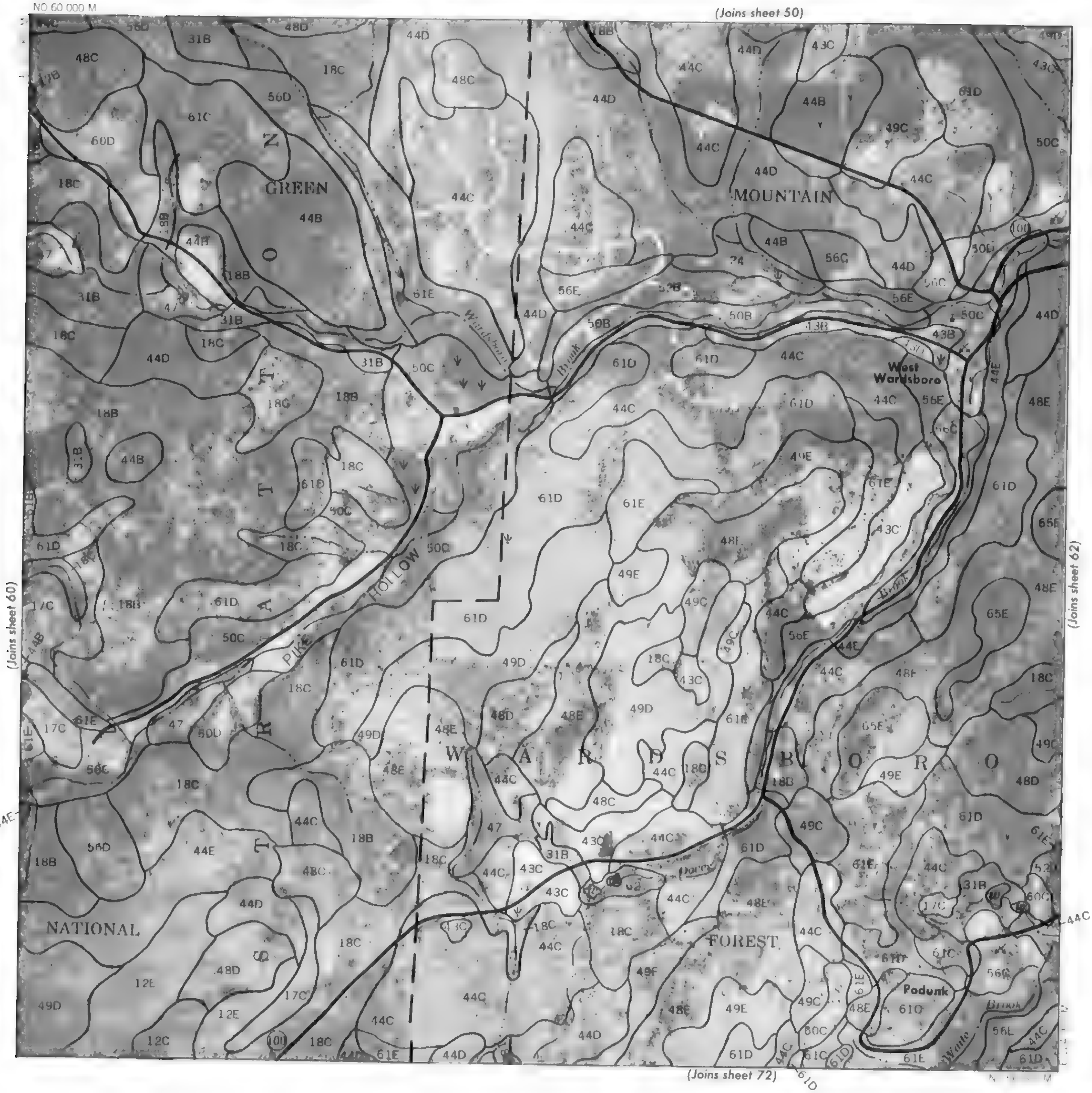

SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

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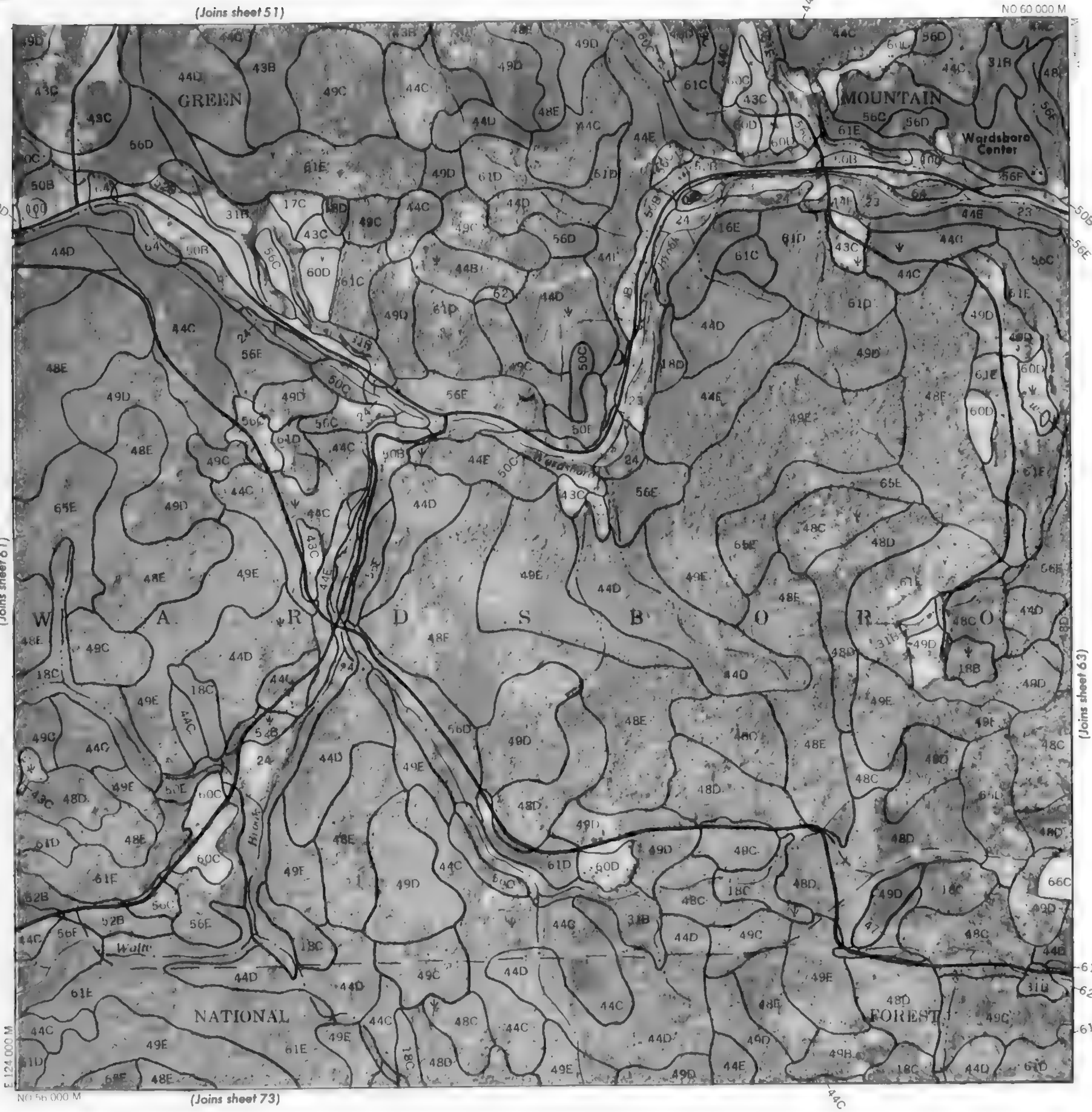

SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

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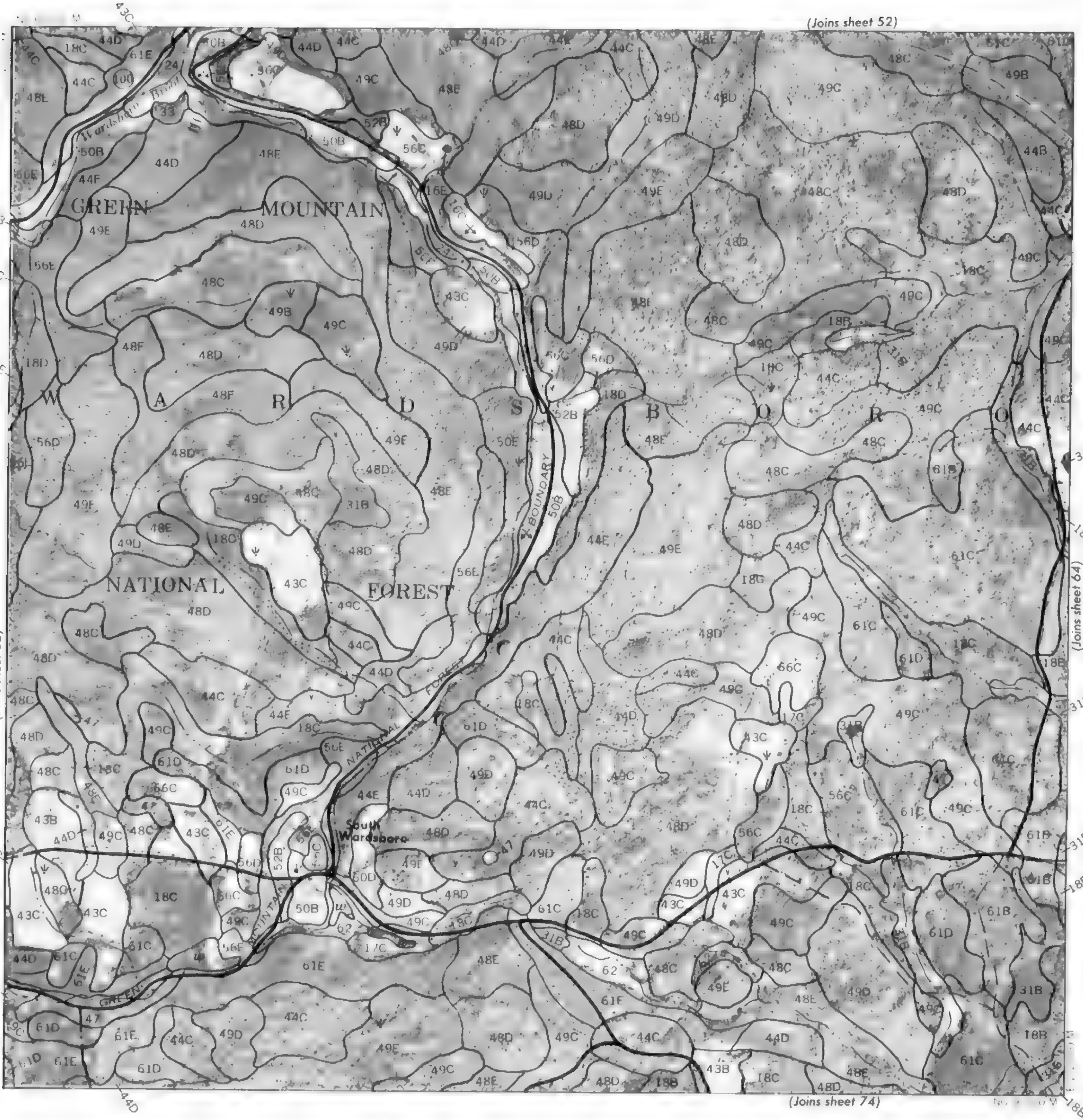

SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

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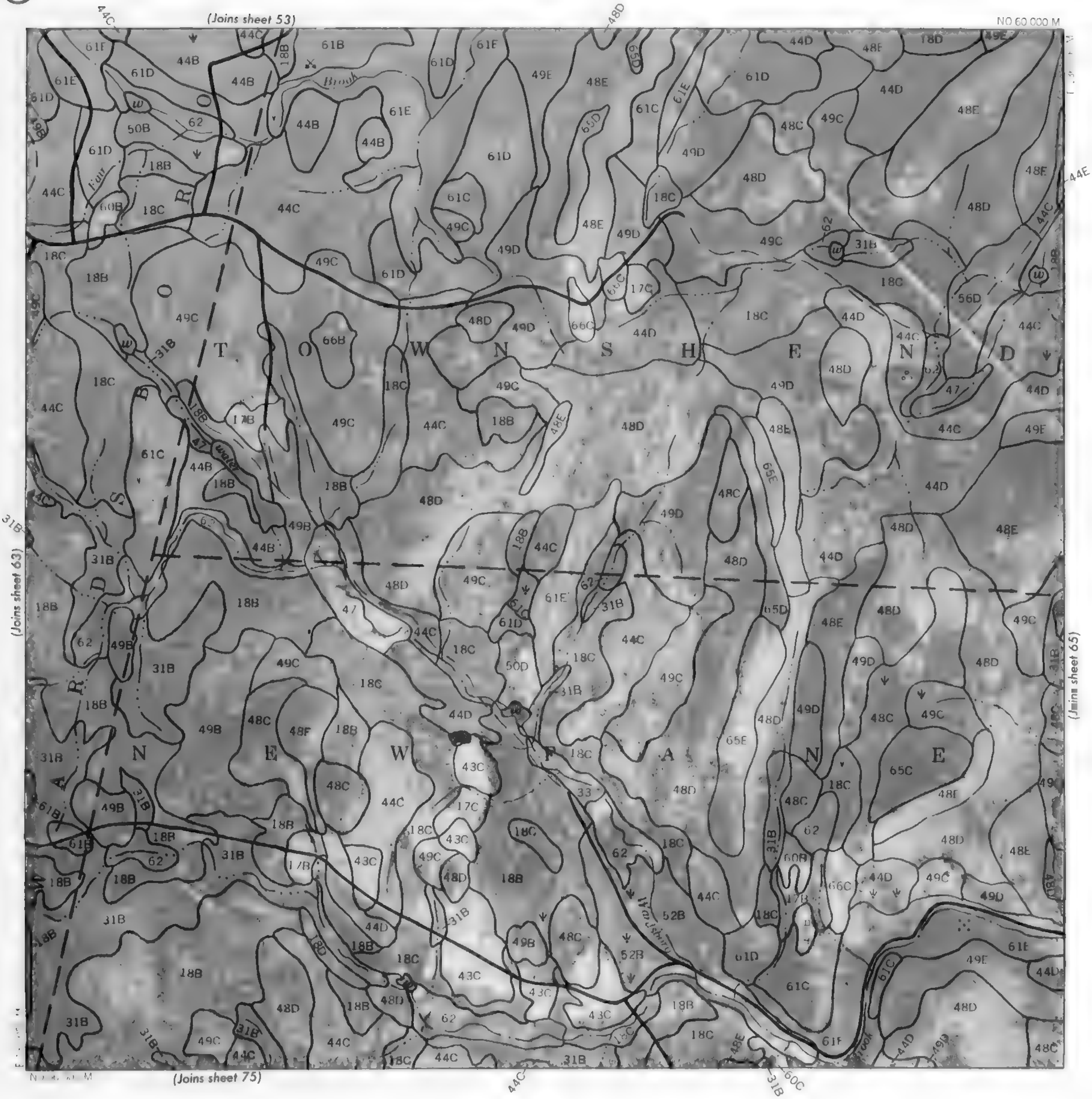

SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

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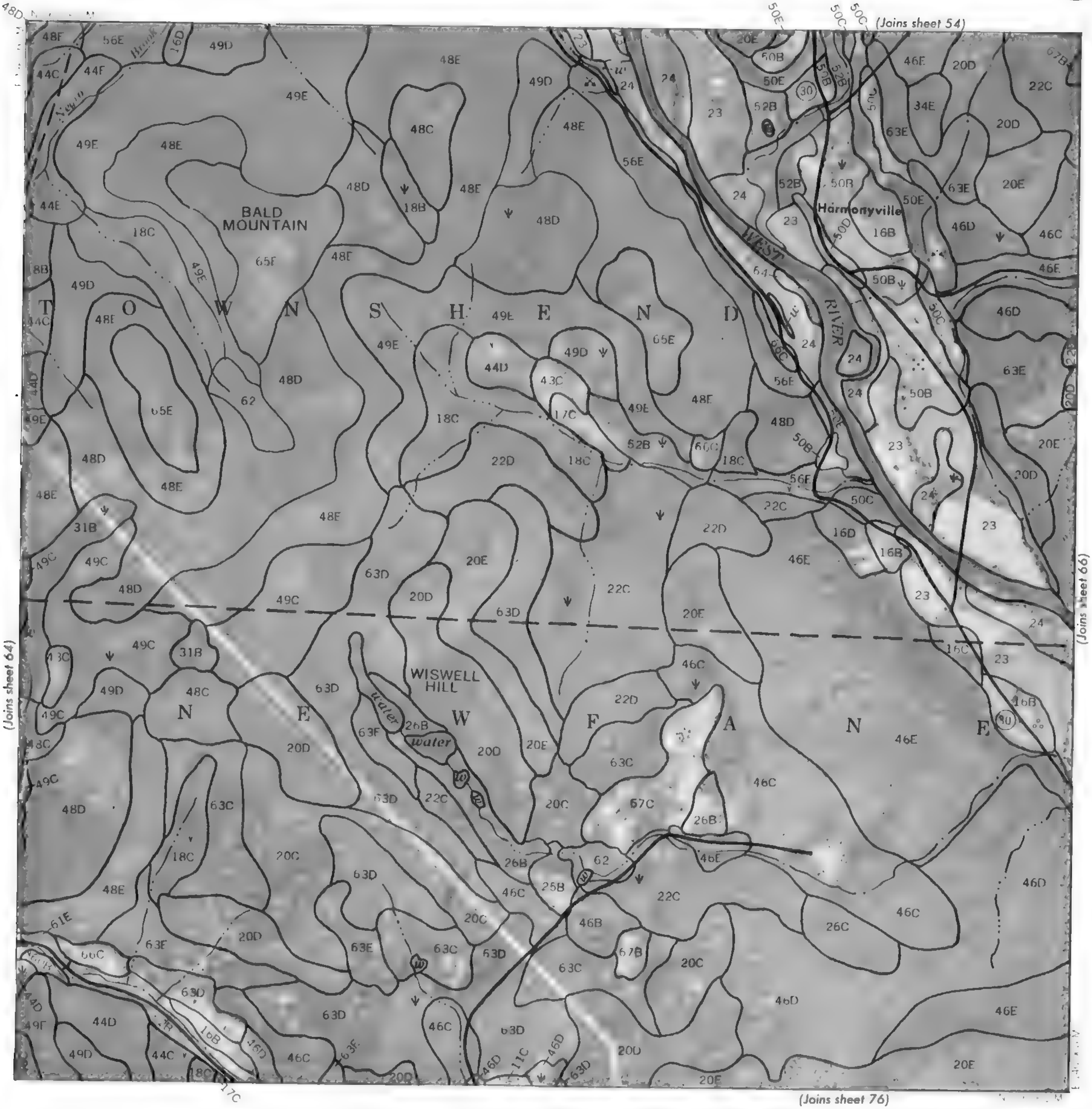

SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

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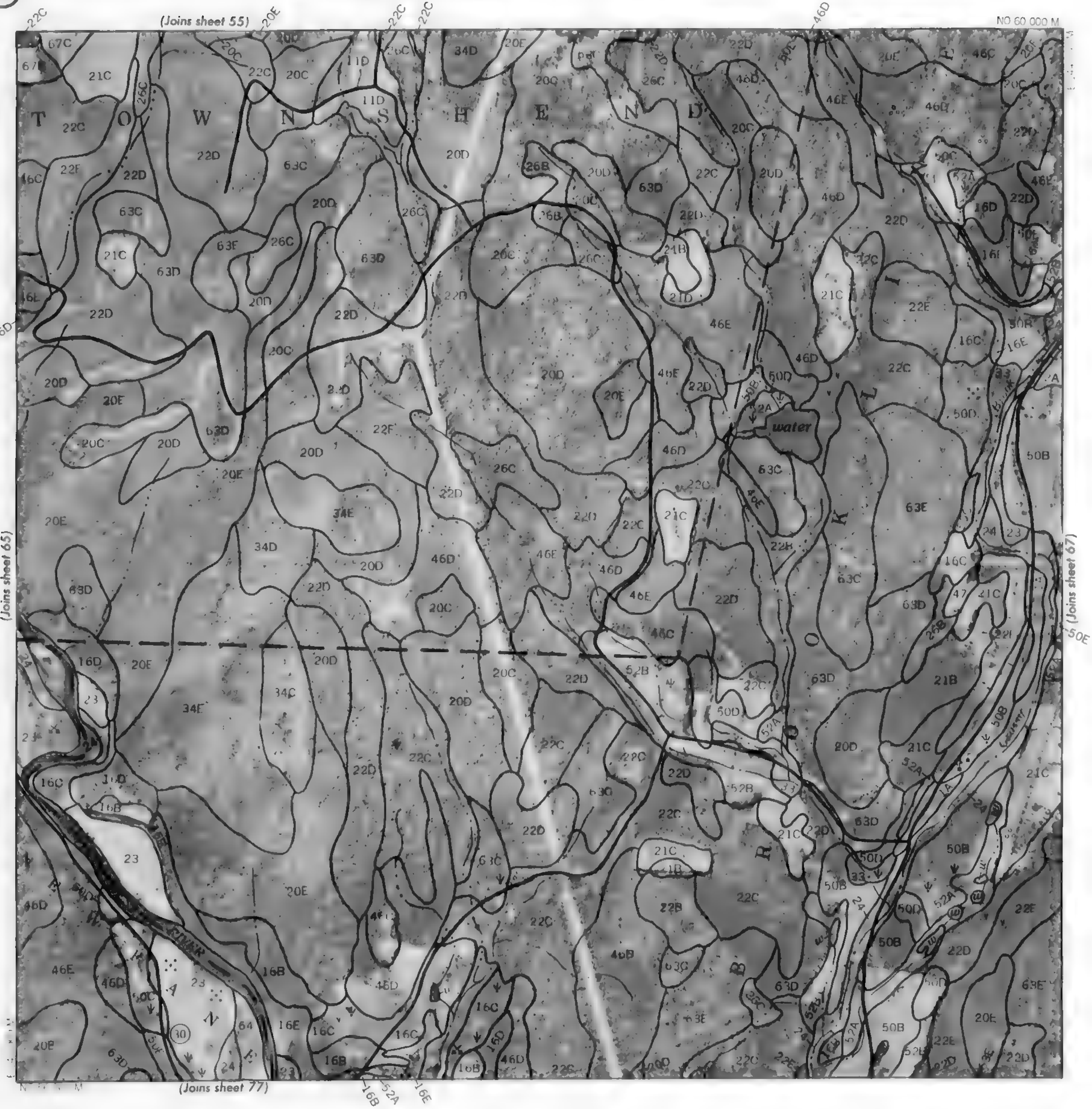

SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

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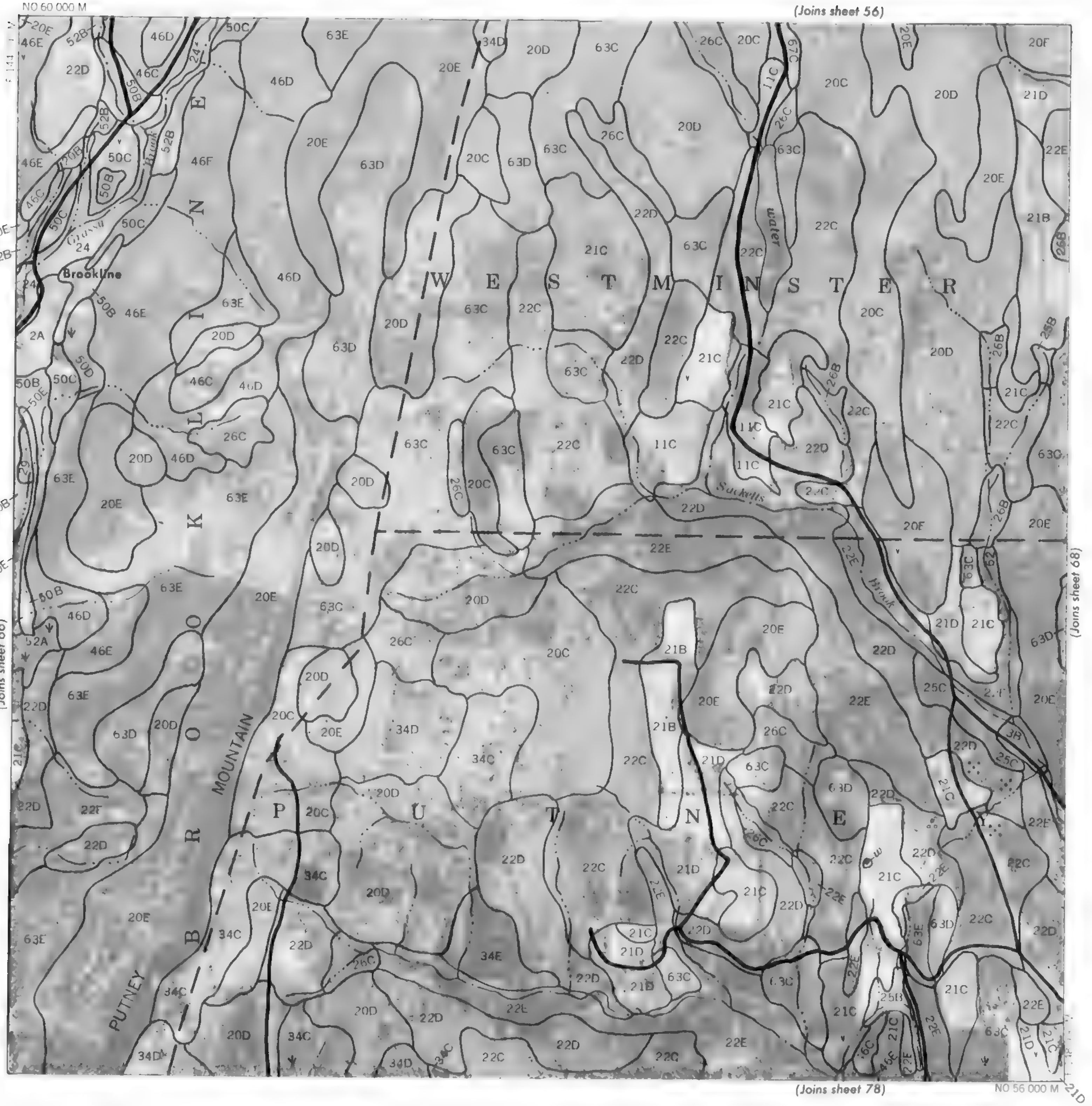

SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

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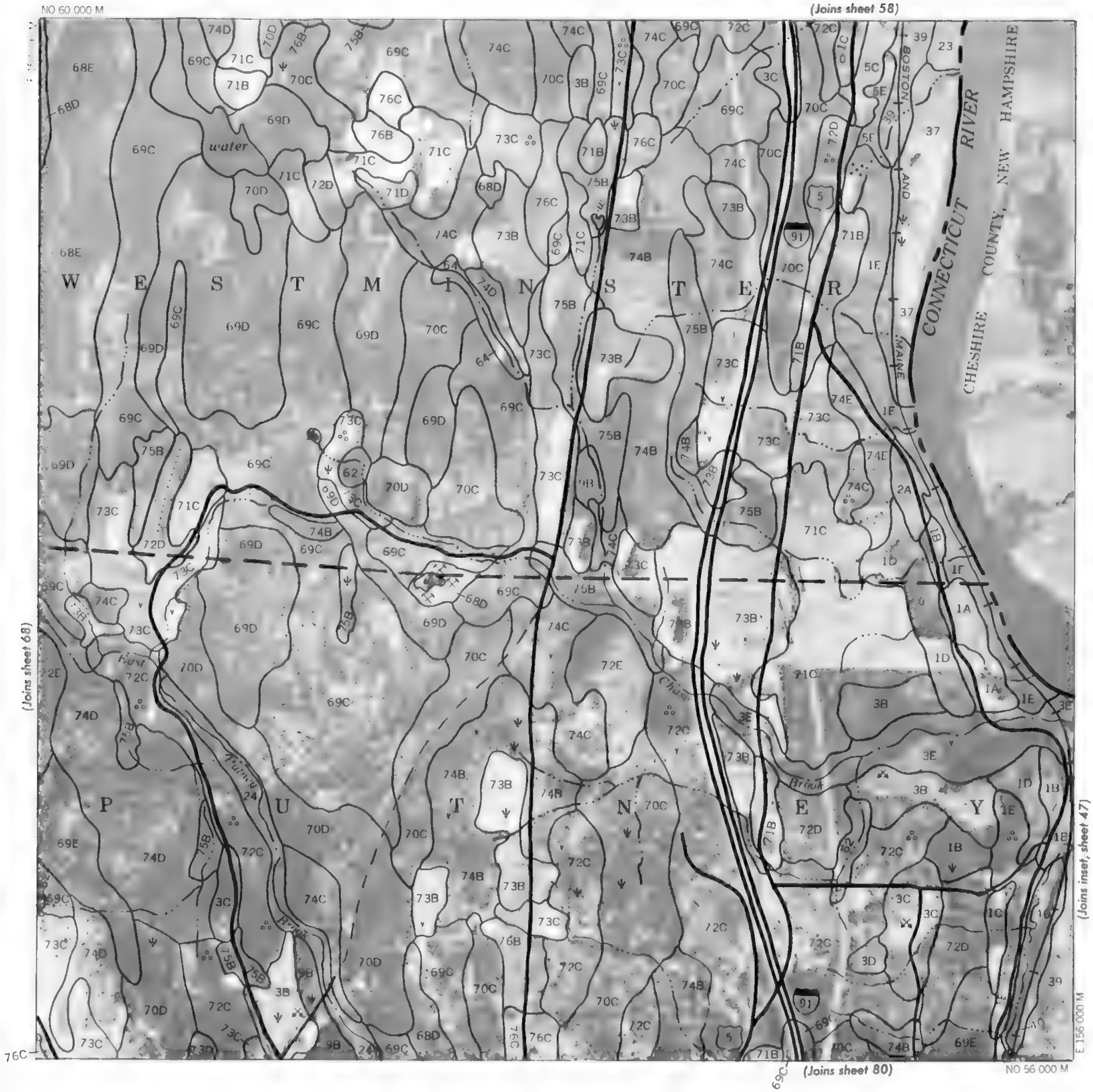

SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

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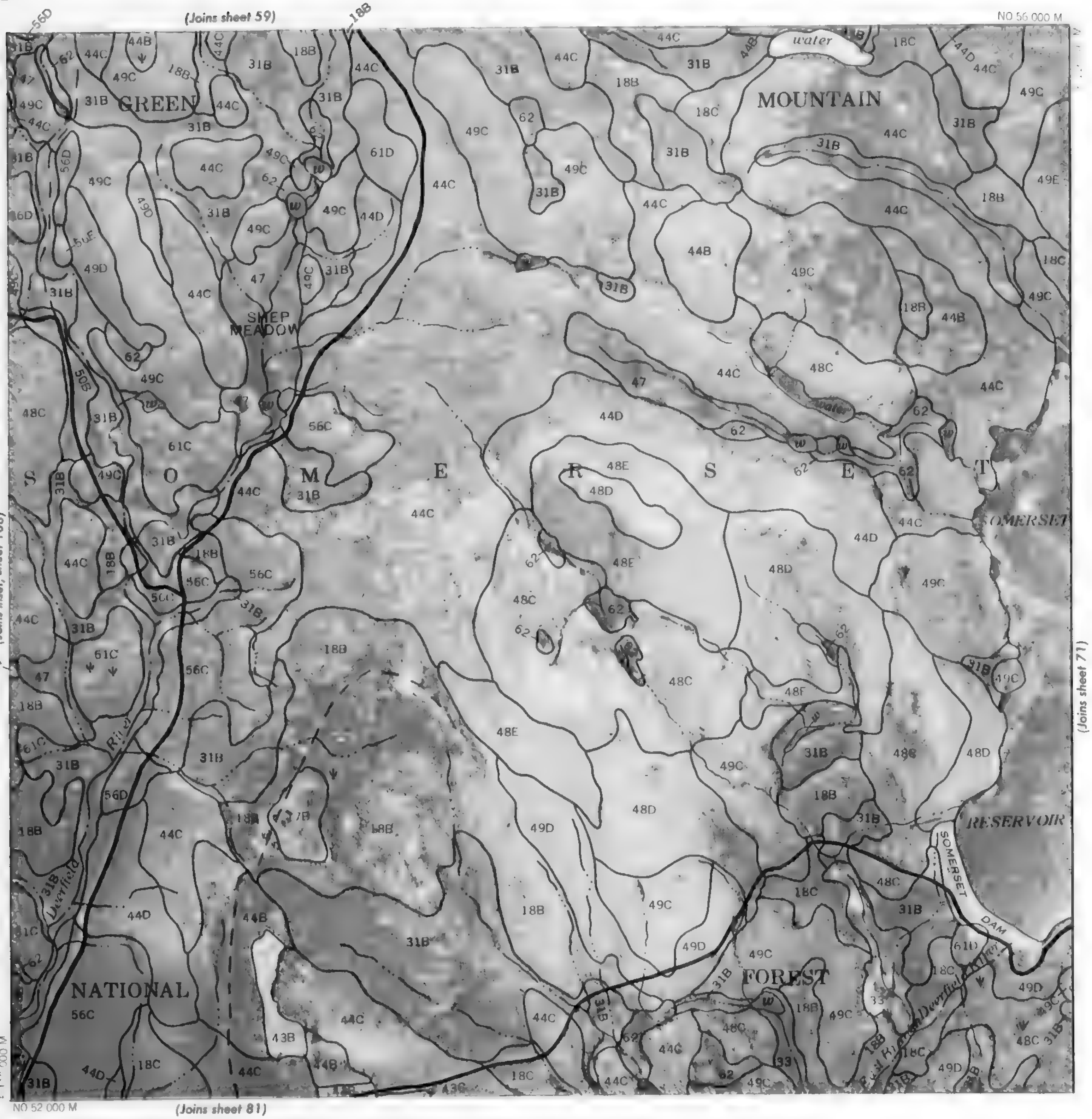

SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

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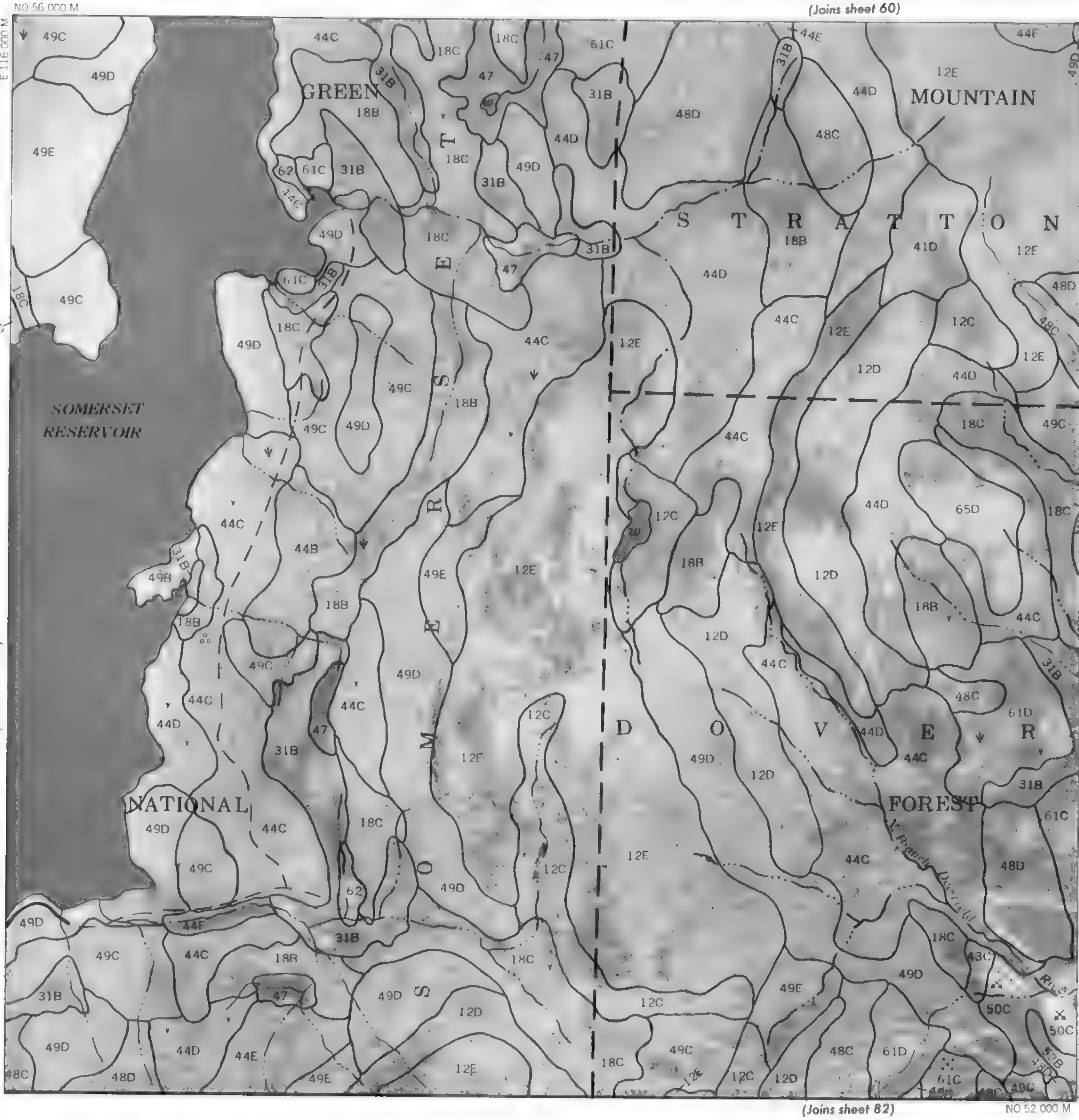

SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

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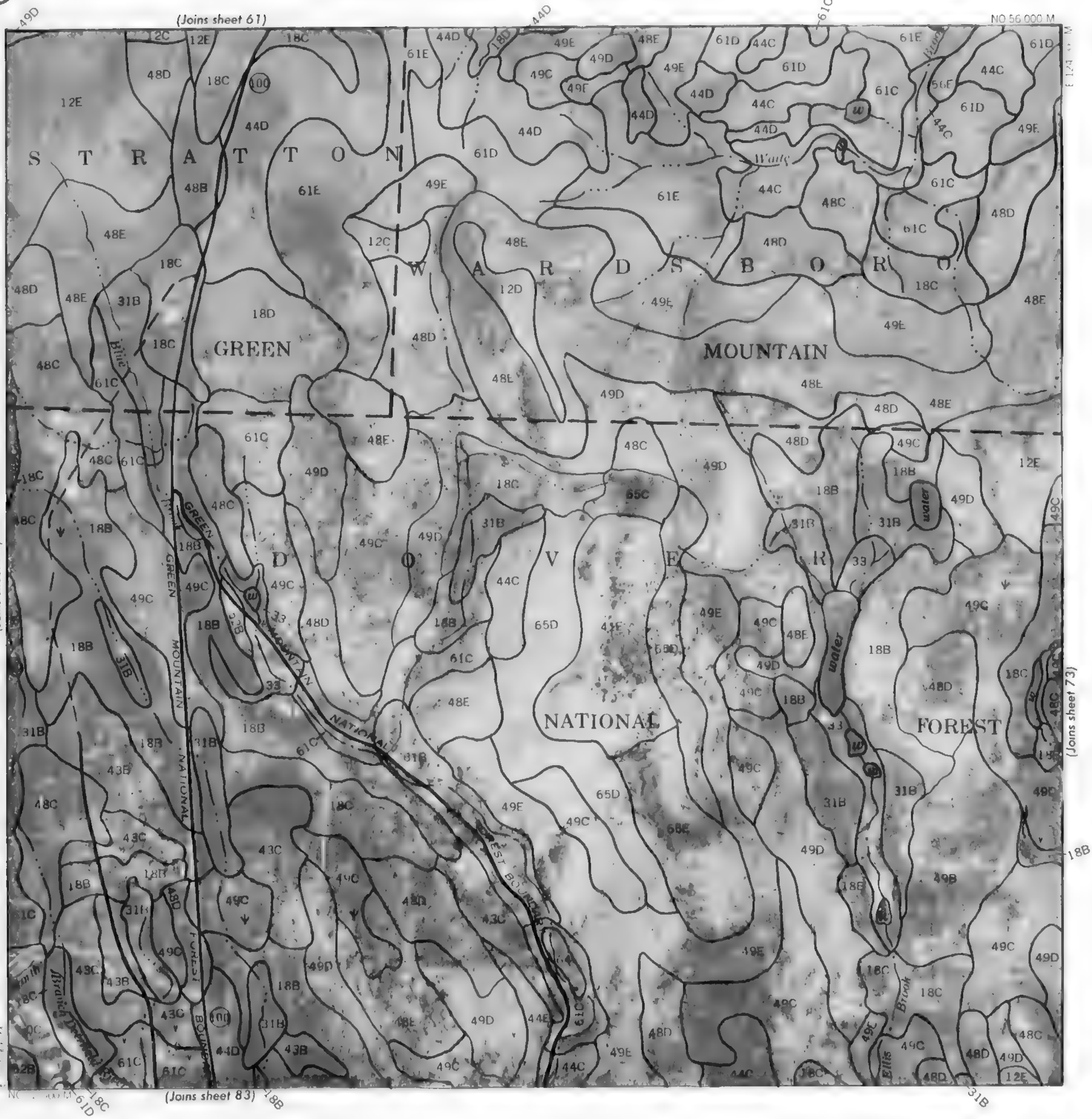

SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

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SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

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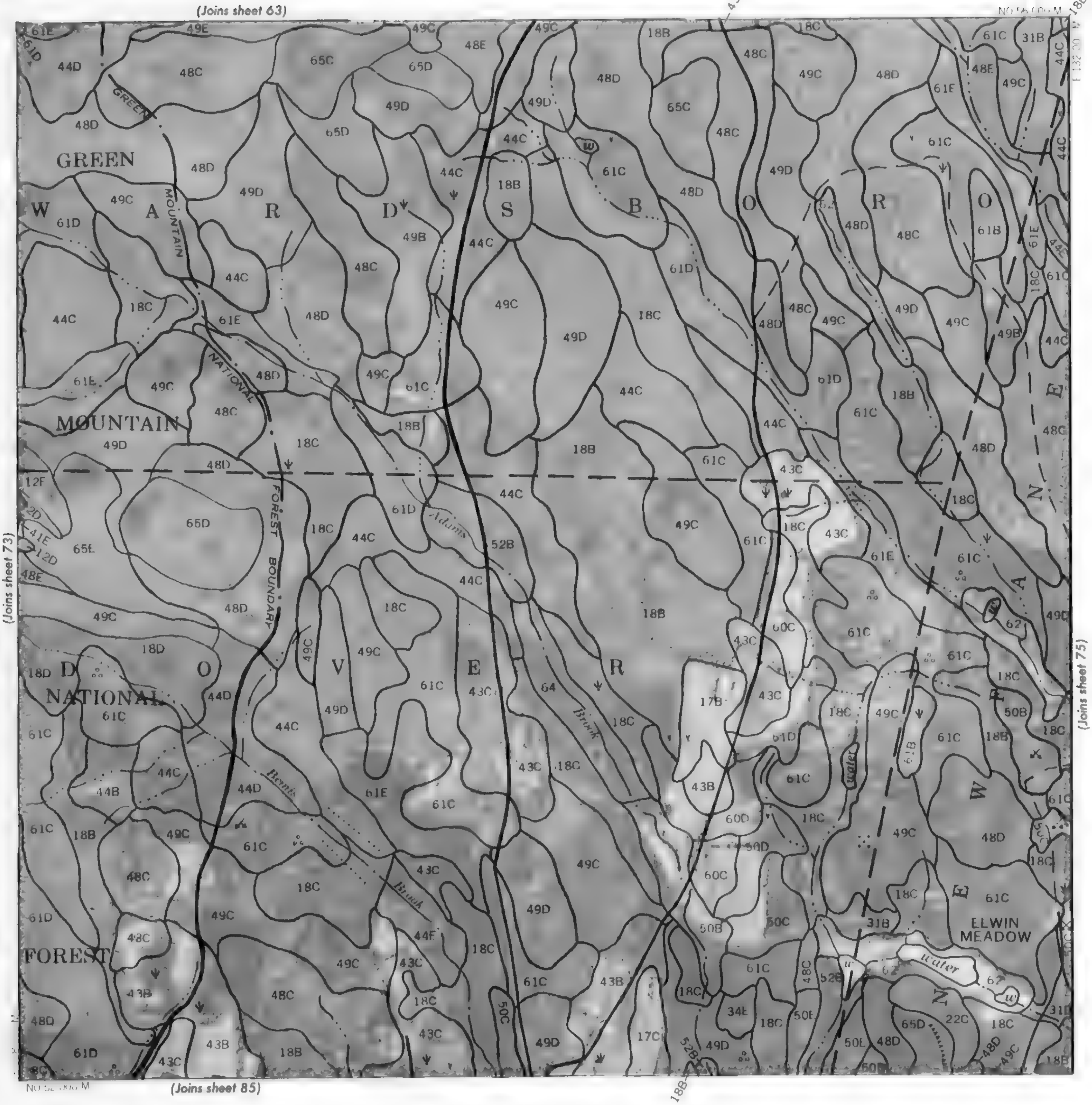

SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

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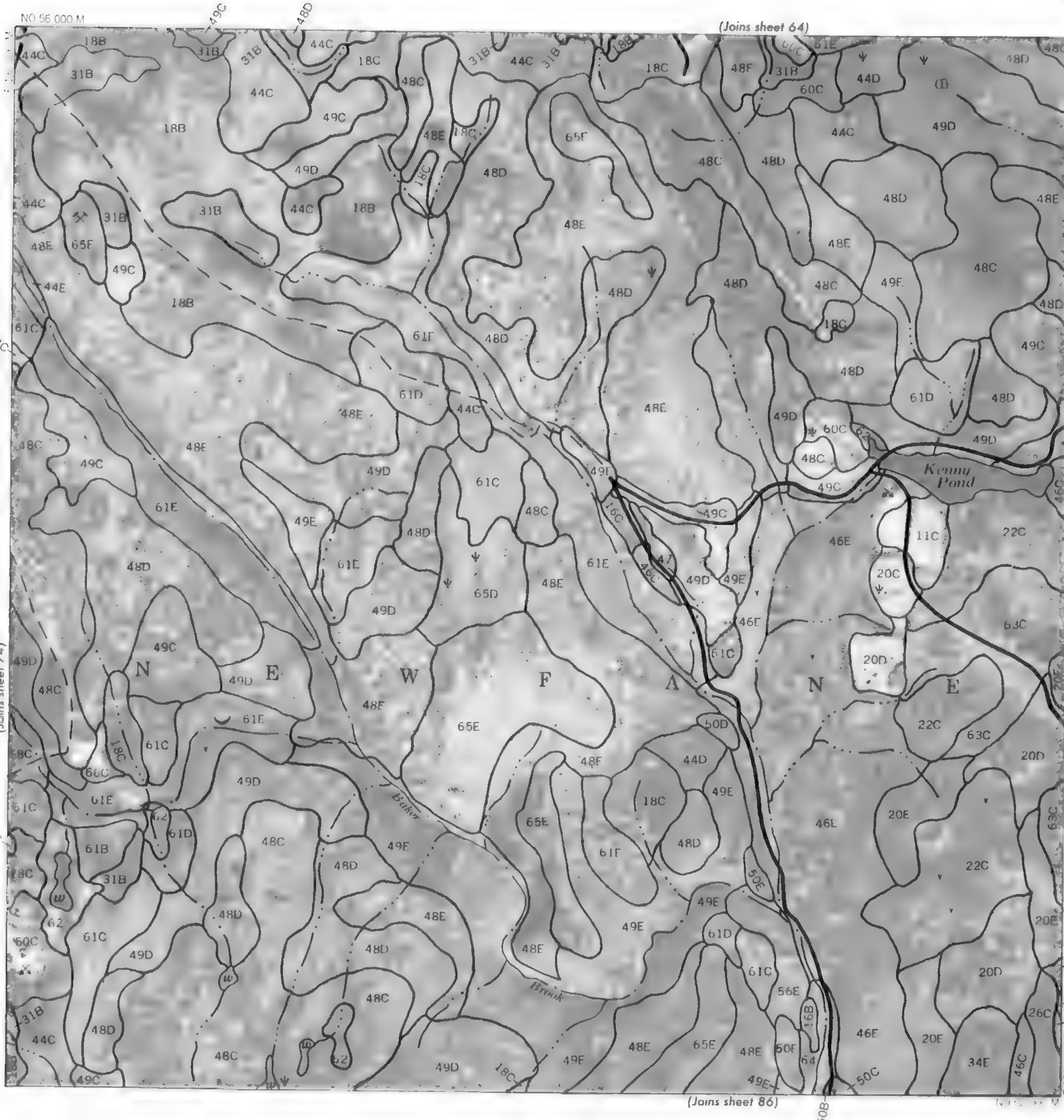

SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

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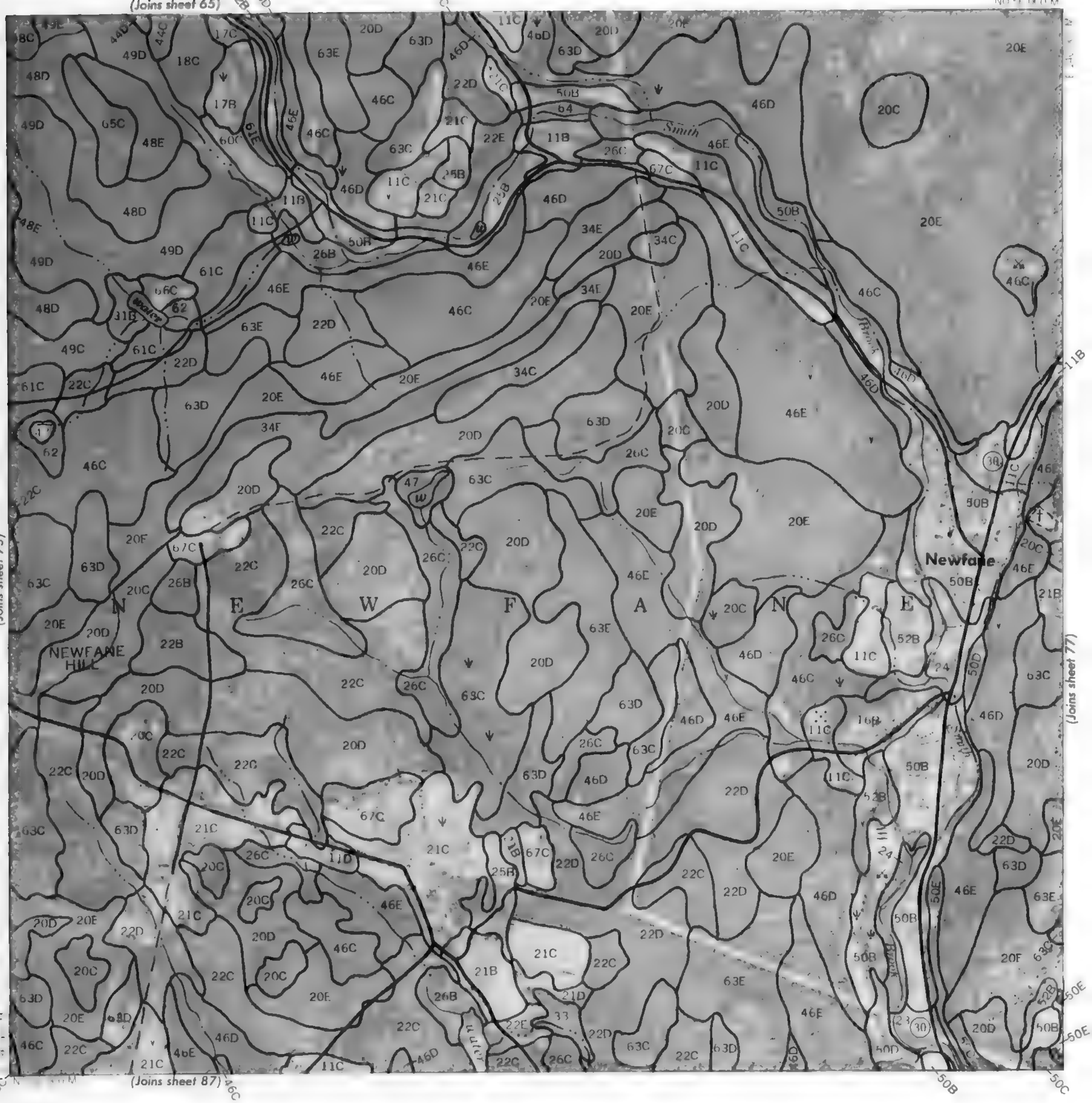
ating agencies Ba
Valuation and Review, State of Vermont f 1975 aeria
4000 e Vermont Coordinate System The grid on th
image is in a 500 met



SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

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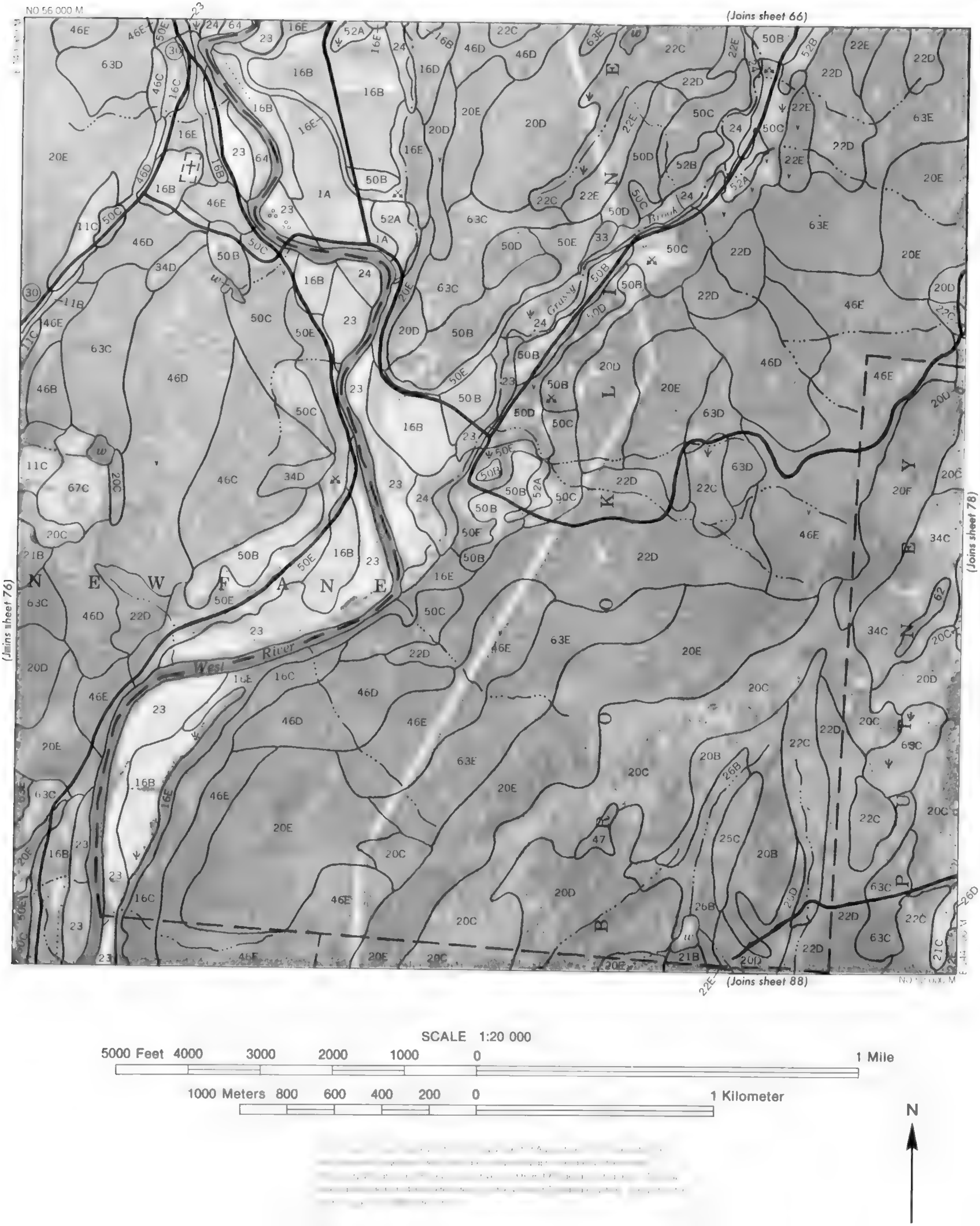

(Joins sheet 66)
(Joins sheet 76)
(Joins sheet 78)
(Joins sheet 88)
N E W F A N E
B R O O K L I N E
D U M M E R S T O N
West River
Grassy Brook
SCALE 1:20 000
5000 Feet 4000 3000 2000 1000 0 1 Mile
1000 Meters 800 600 400 200 0 1 Kilometer
N

SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

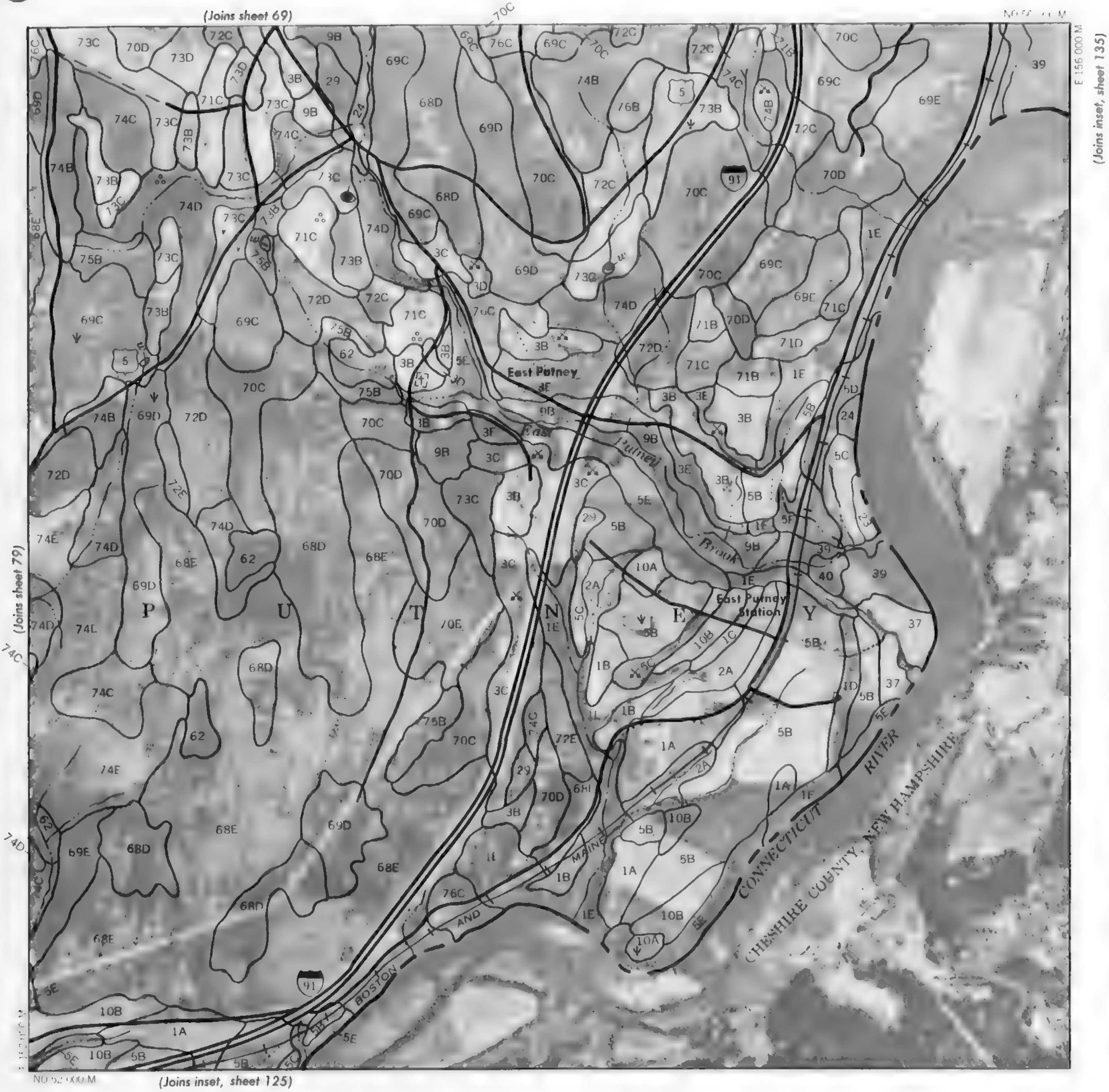
N

SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

N



SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

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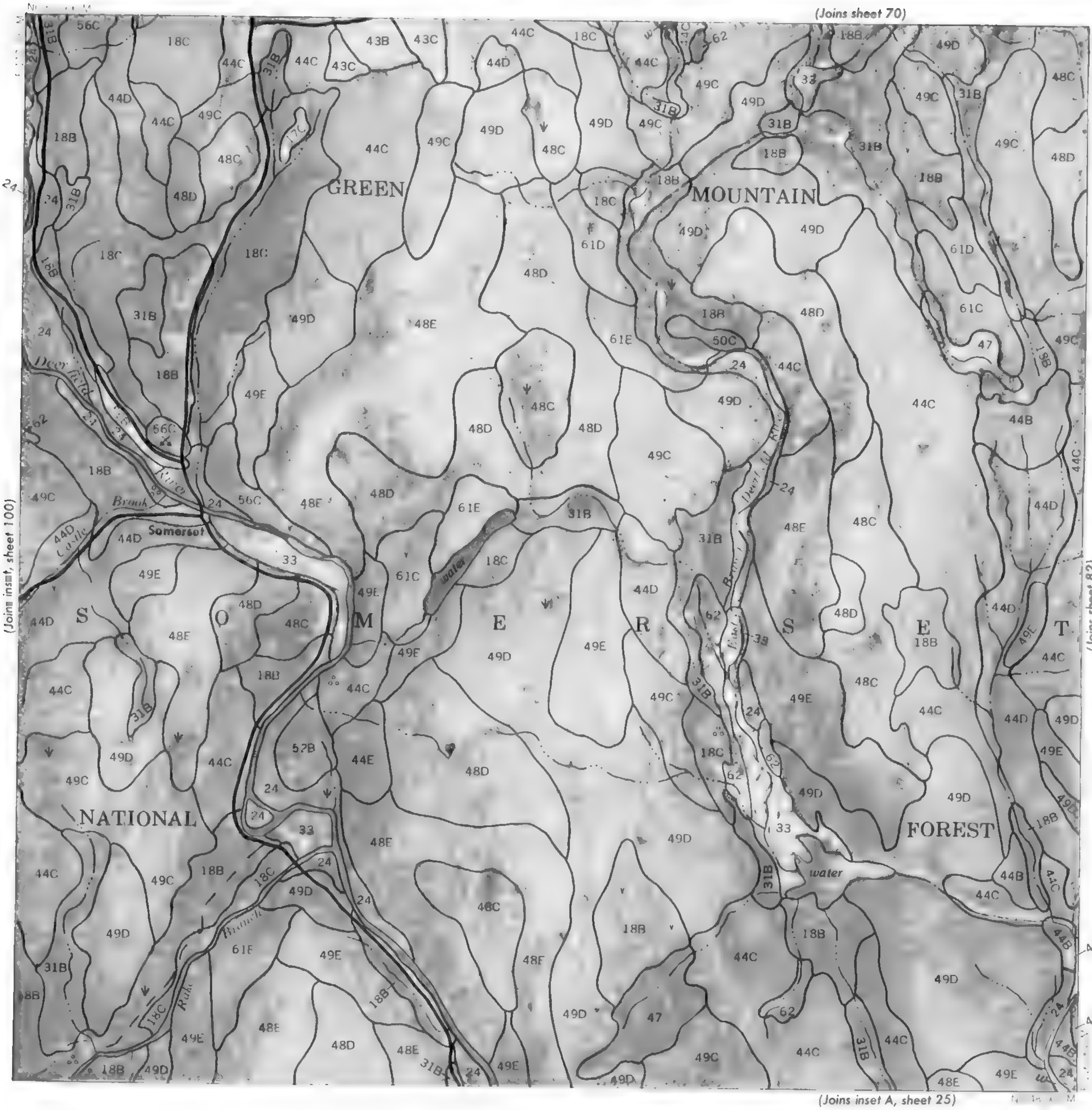


SCALE 1:20 000

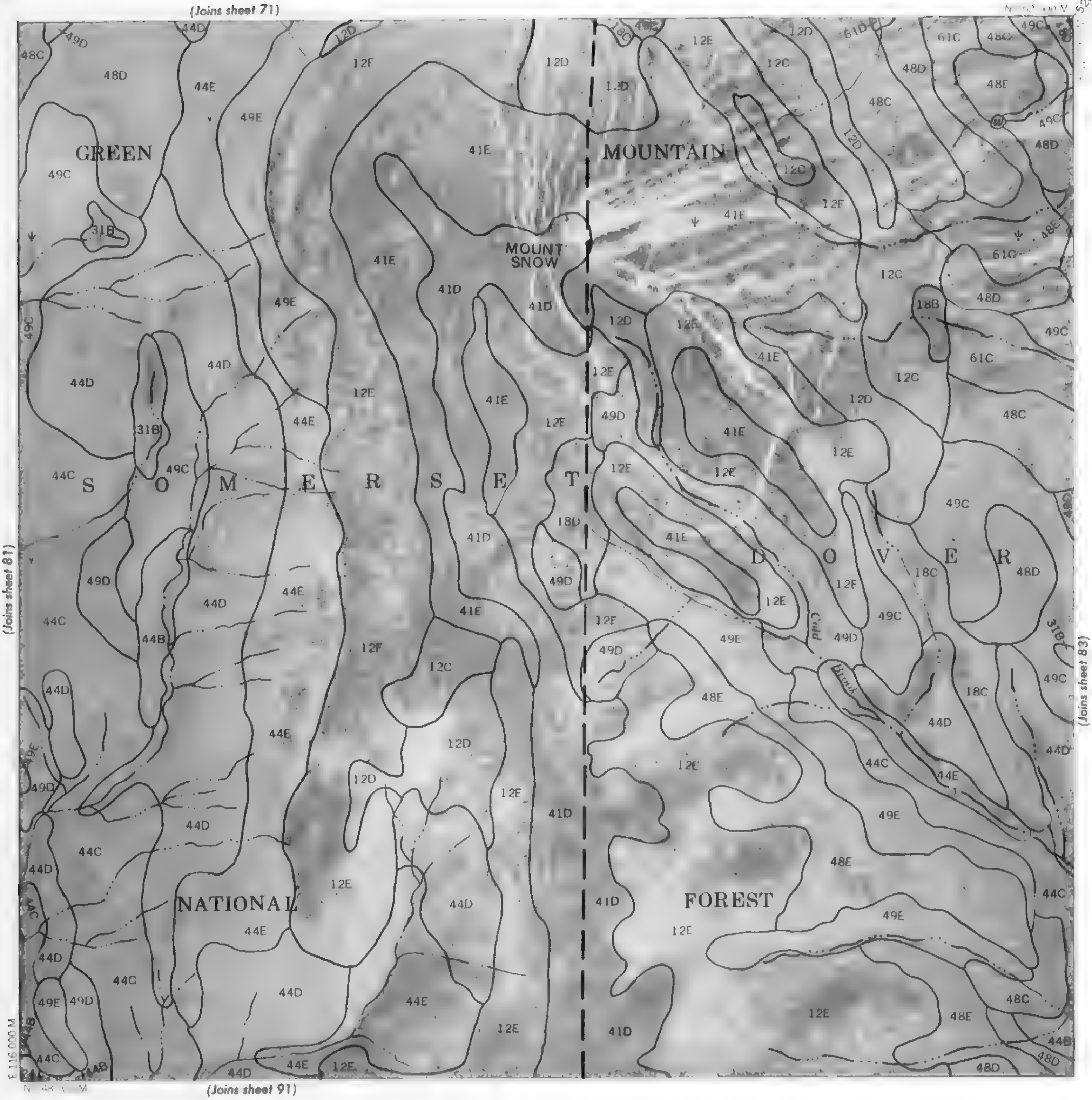
5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

N

from 1975 aerial photography. The map

nt Coordinate System. The grid on th



SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

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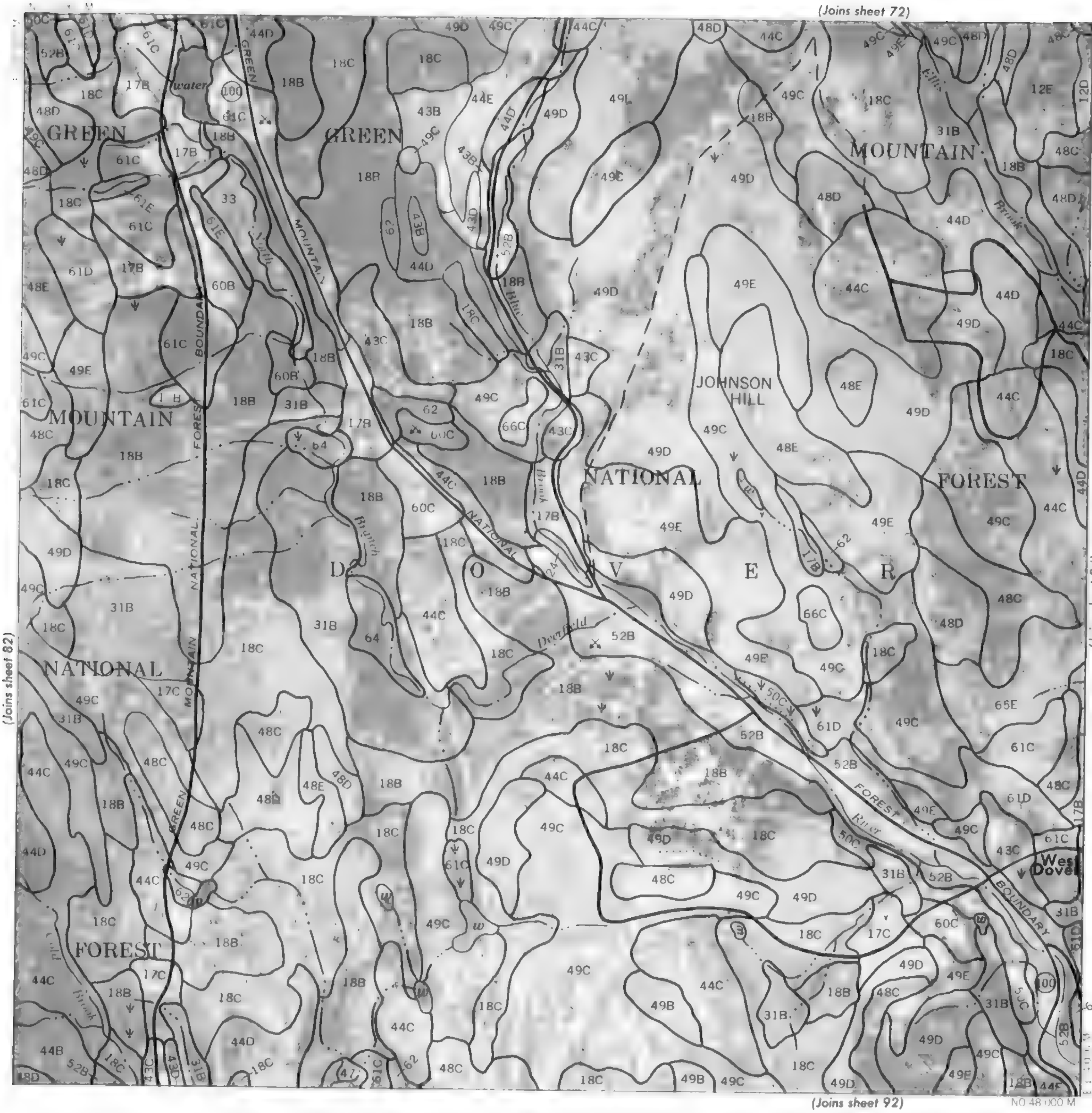
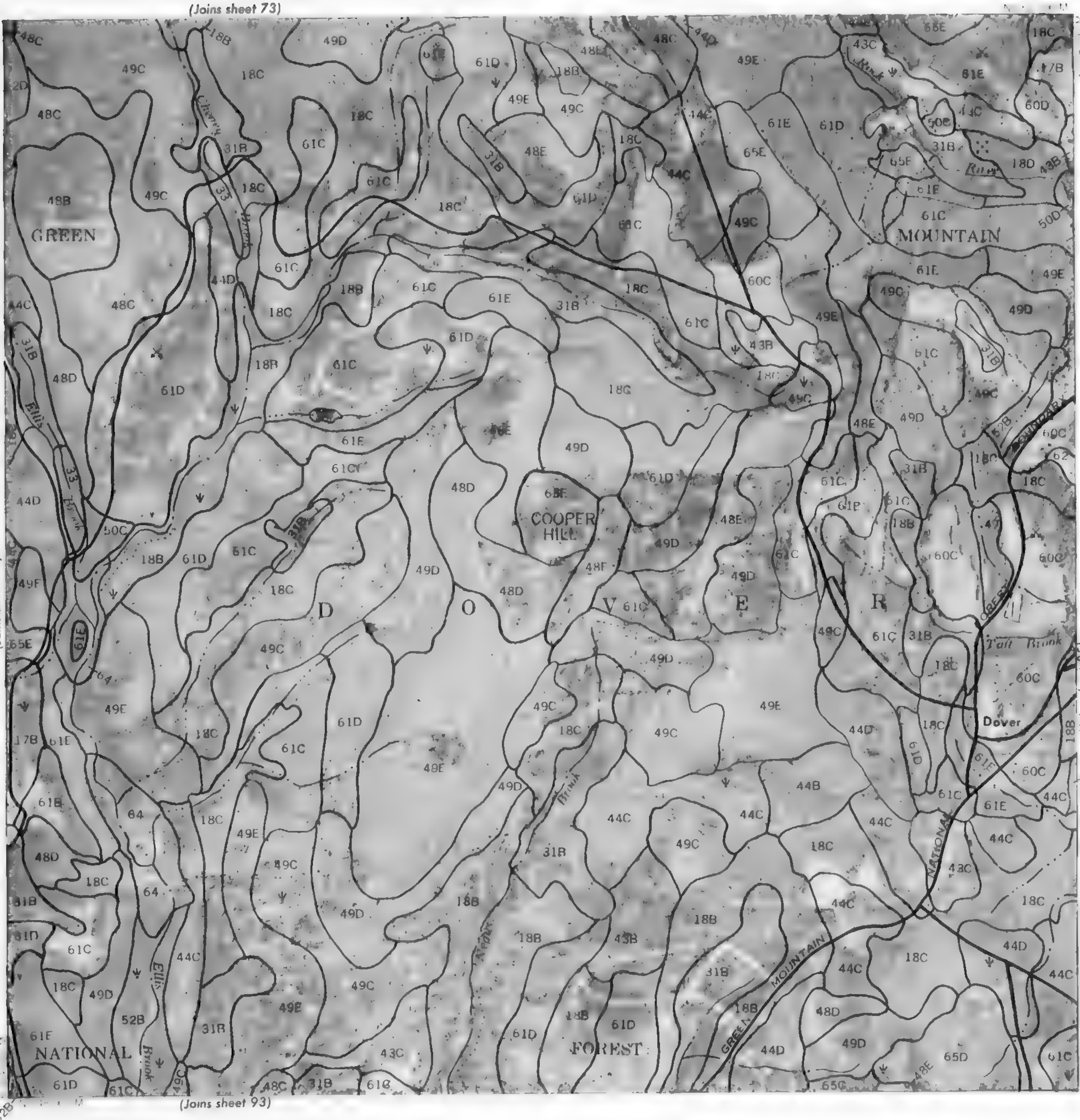


SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

N

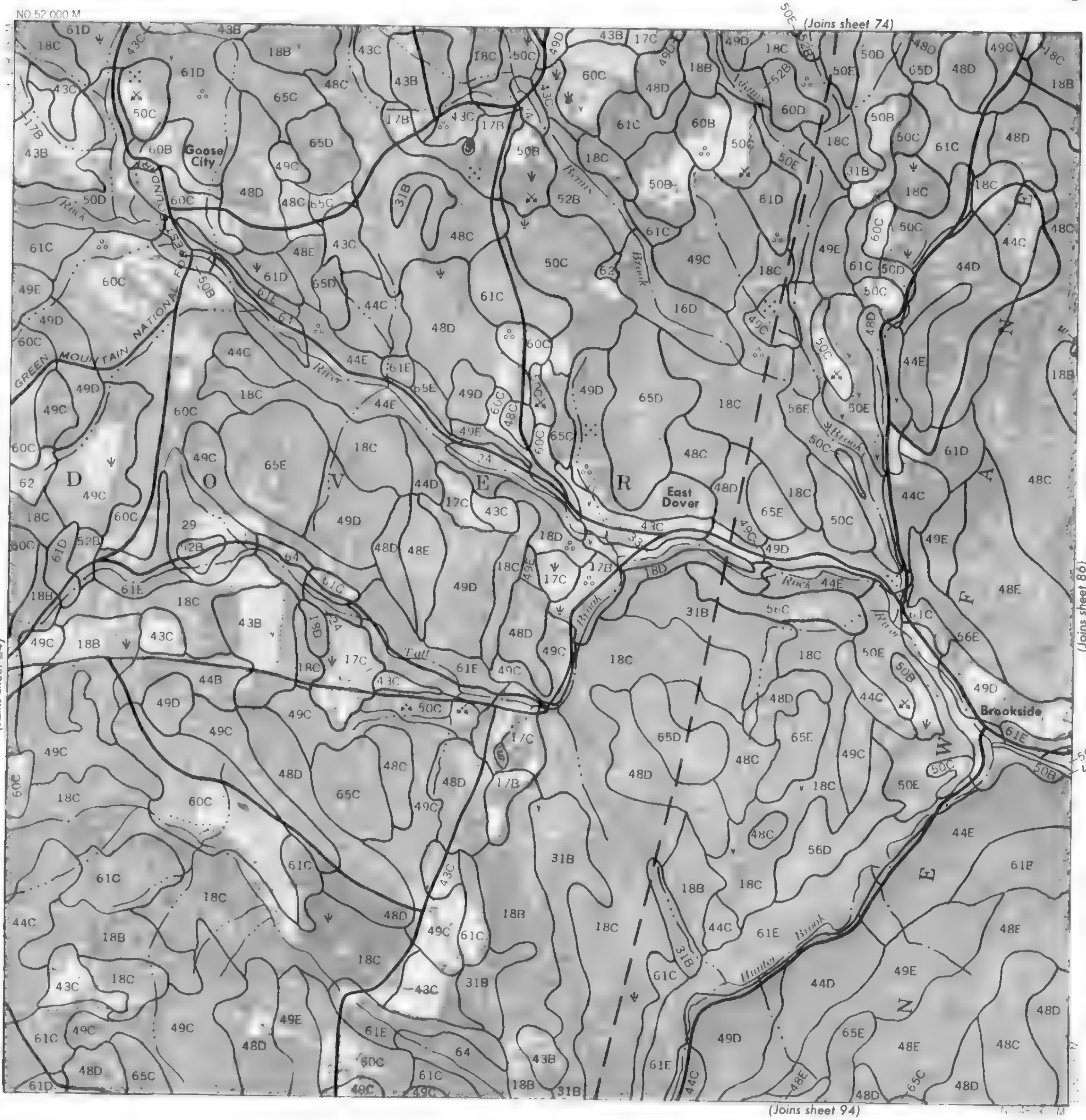


SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

N

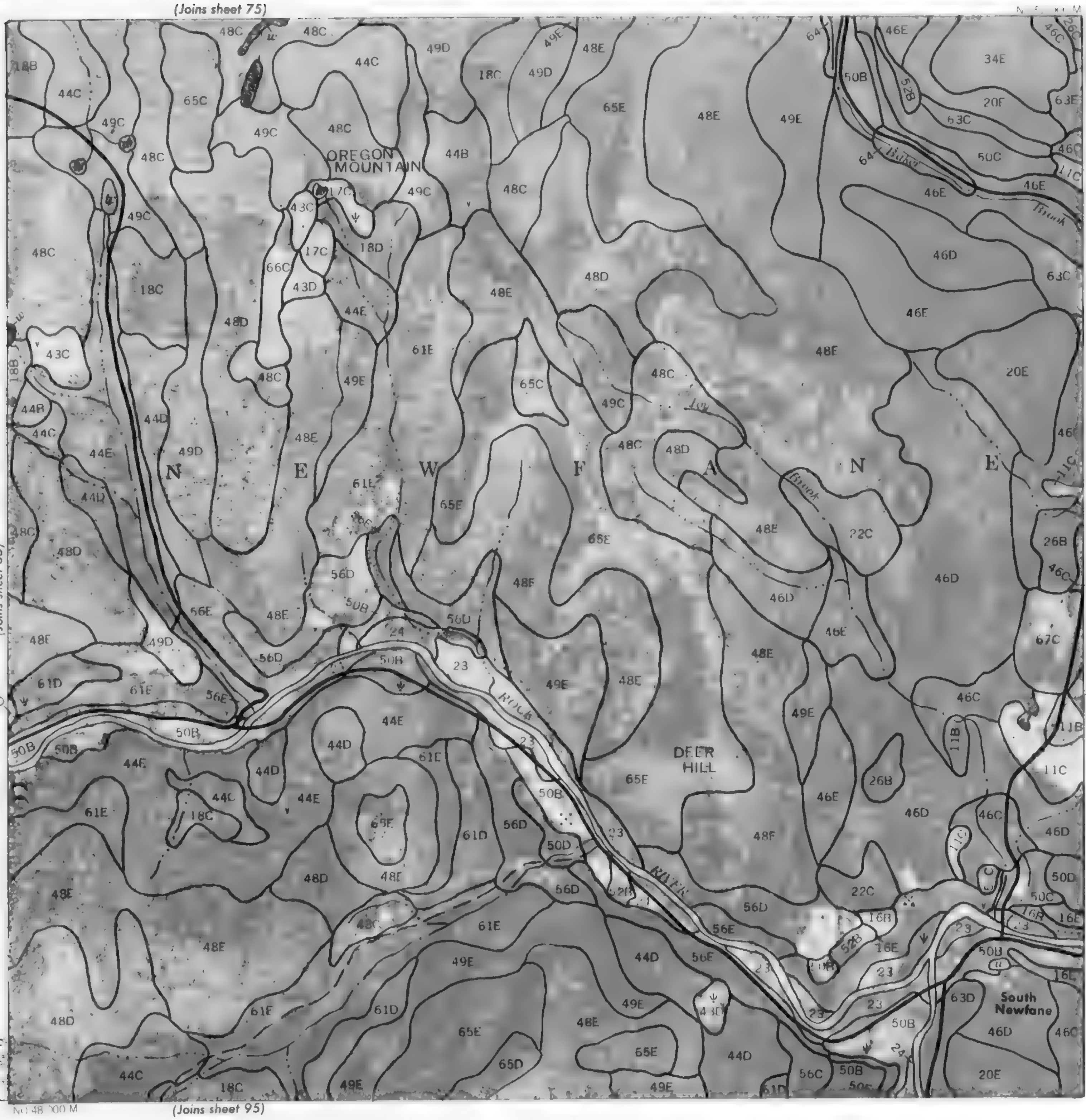


SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

N

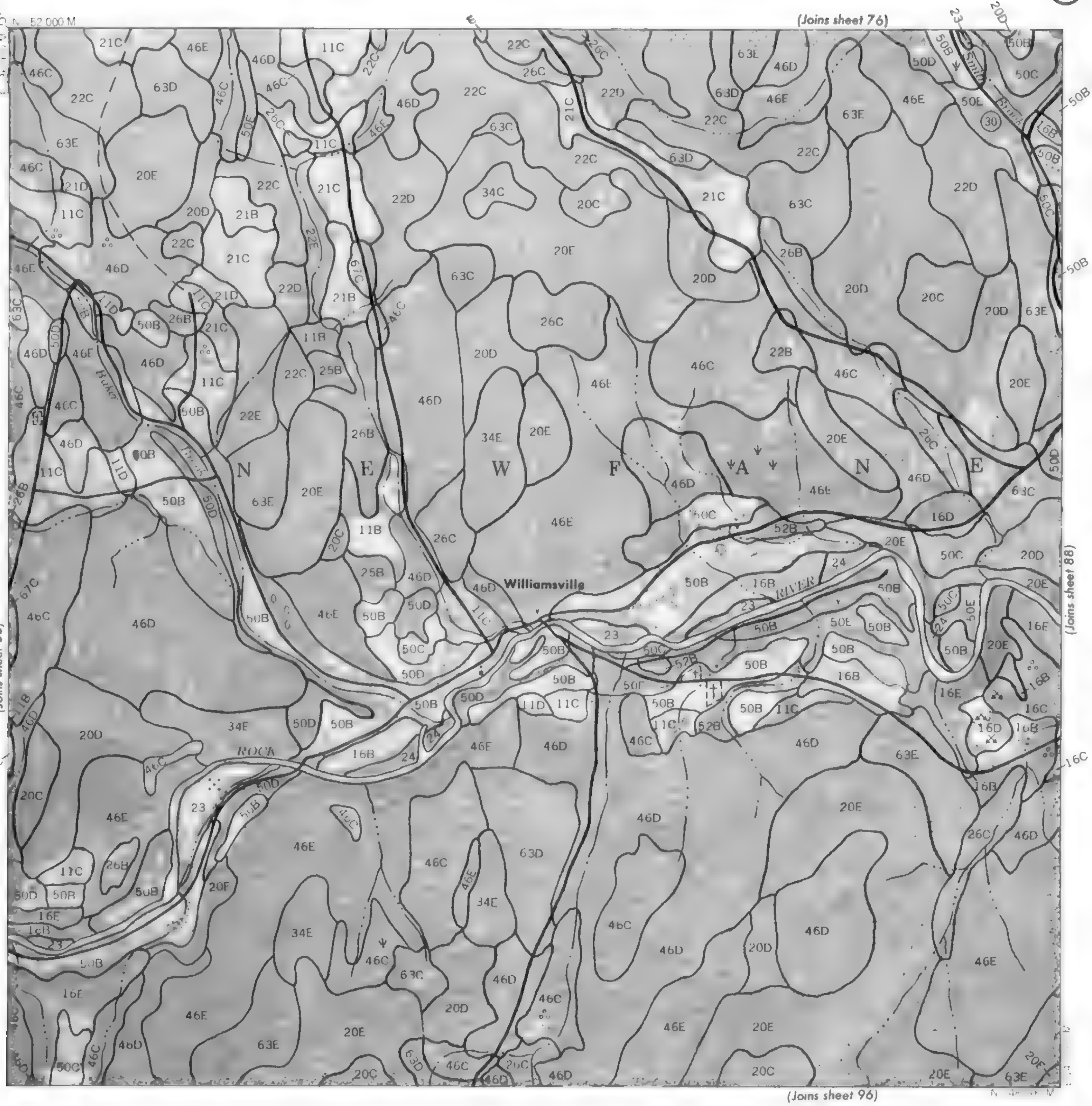


SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

N



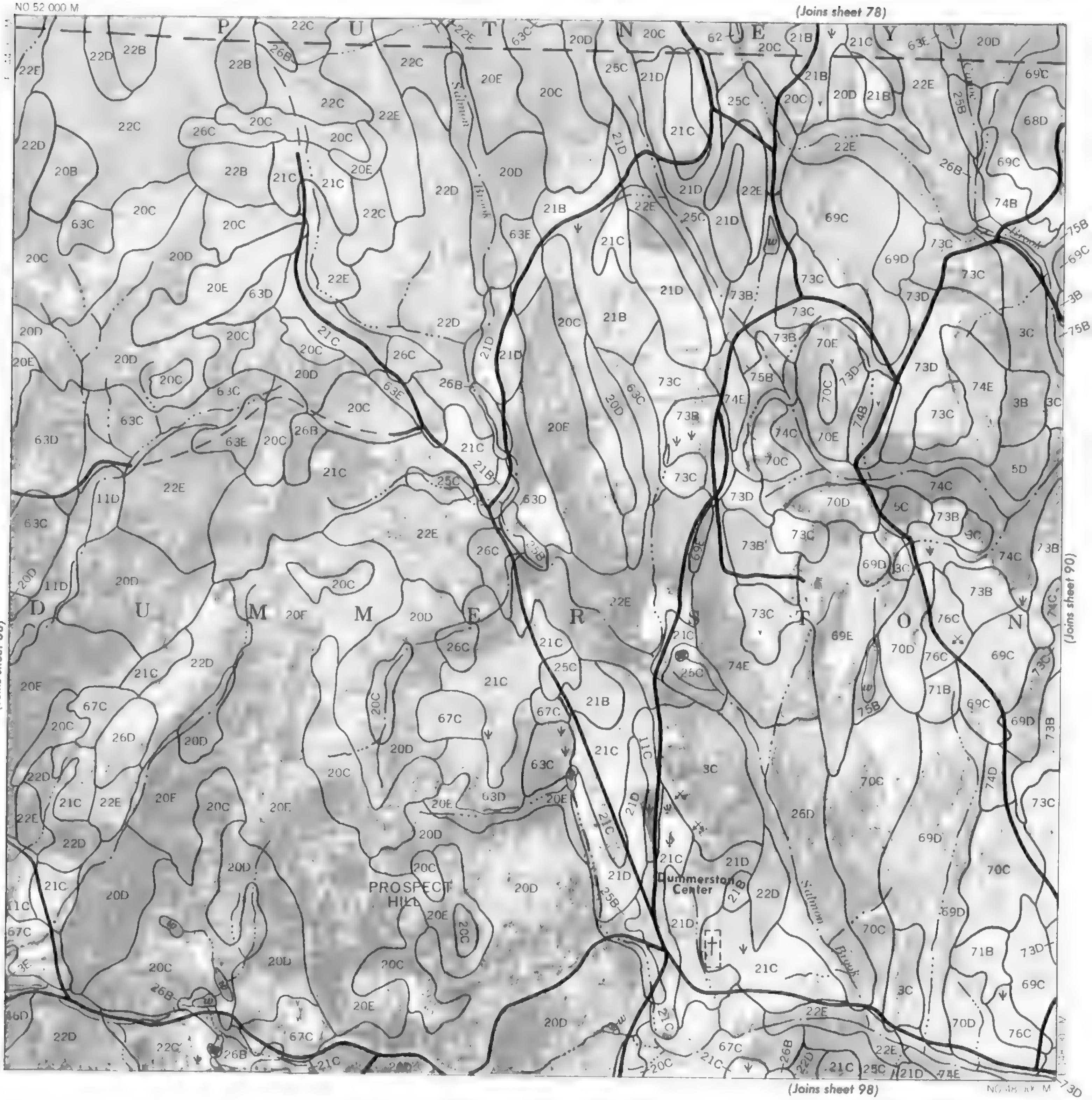
SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

N


(Joins sheet 77)
(Joins sheet 97)
(Joins sheet 89)
NEWFANE
DUMMERSTON
WEST RIVER
ROCK RIVER
Smith Brook
Fall Brook
Williamsville Station
SCALE 1:20 000
5000 Feet 4000 3000 2000 1000 0 1 Mile
1000 Meters 800 600 400 200 0 1 Kilometer
N



SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

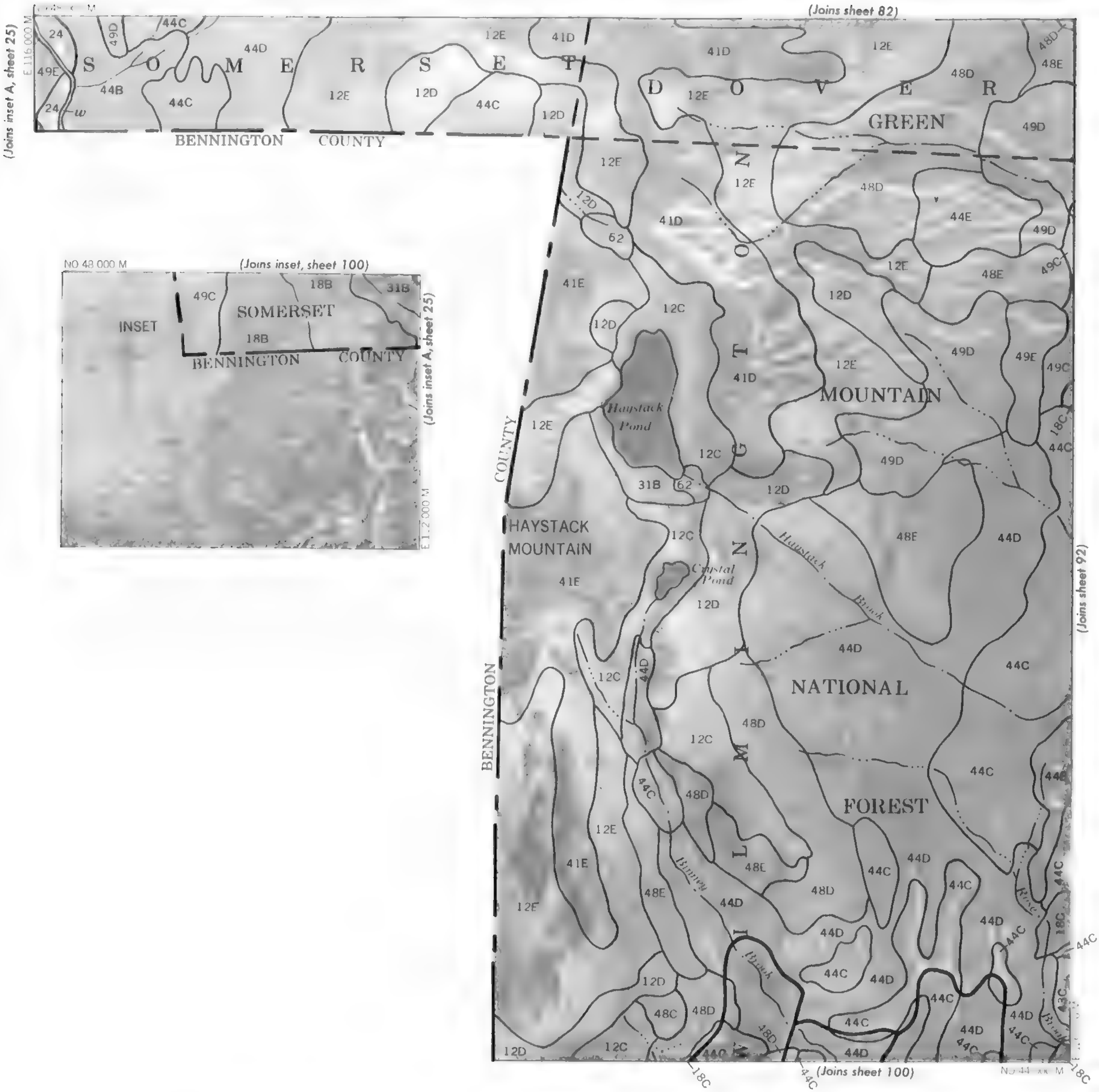
N

SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

N



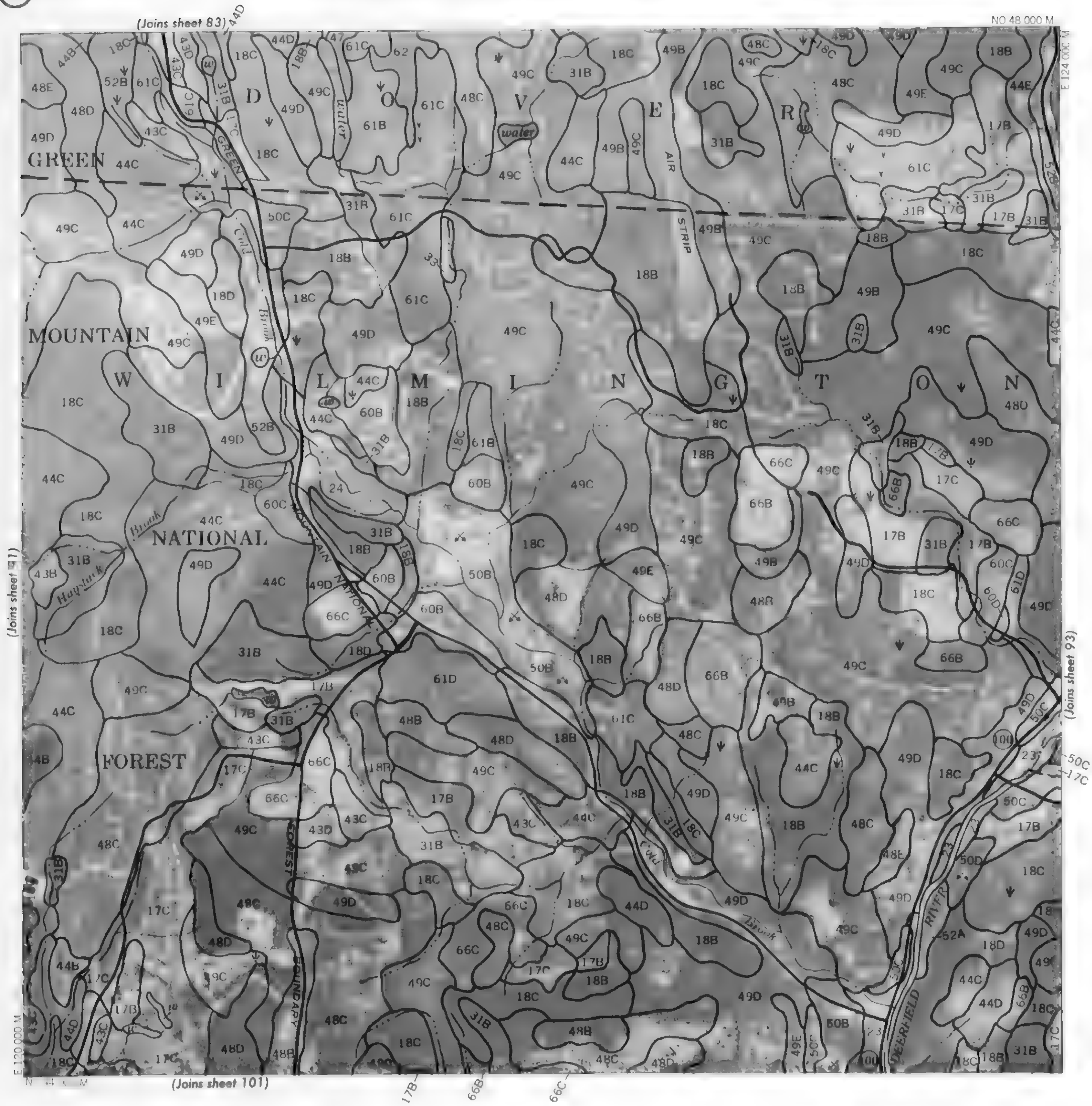
SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

N

The soil survey was compiled by the U S Department of Agriculture, Soil Conservation Service and cooperating agencies Base maps are orthophotographs prepared by the Division of Property Valuation and Review, State of Vermont from 1975 aerial photography The map sheets are divided into 4000 meter interval on the Vermont Coordinate System The grid on the photo image is in a 500 meter interval

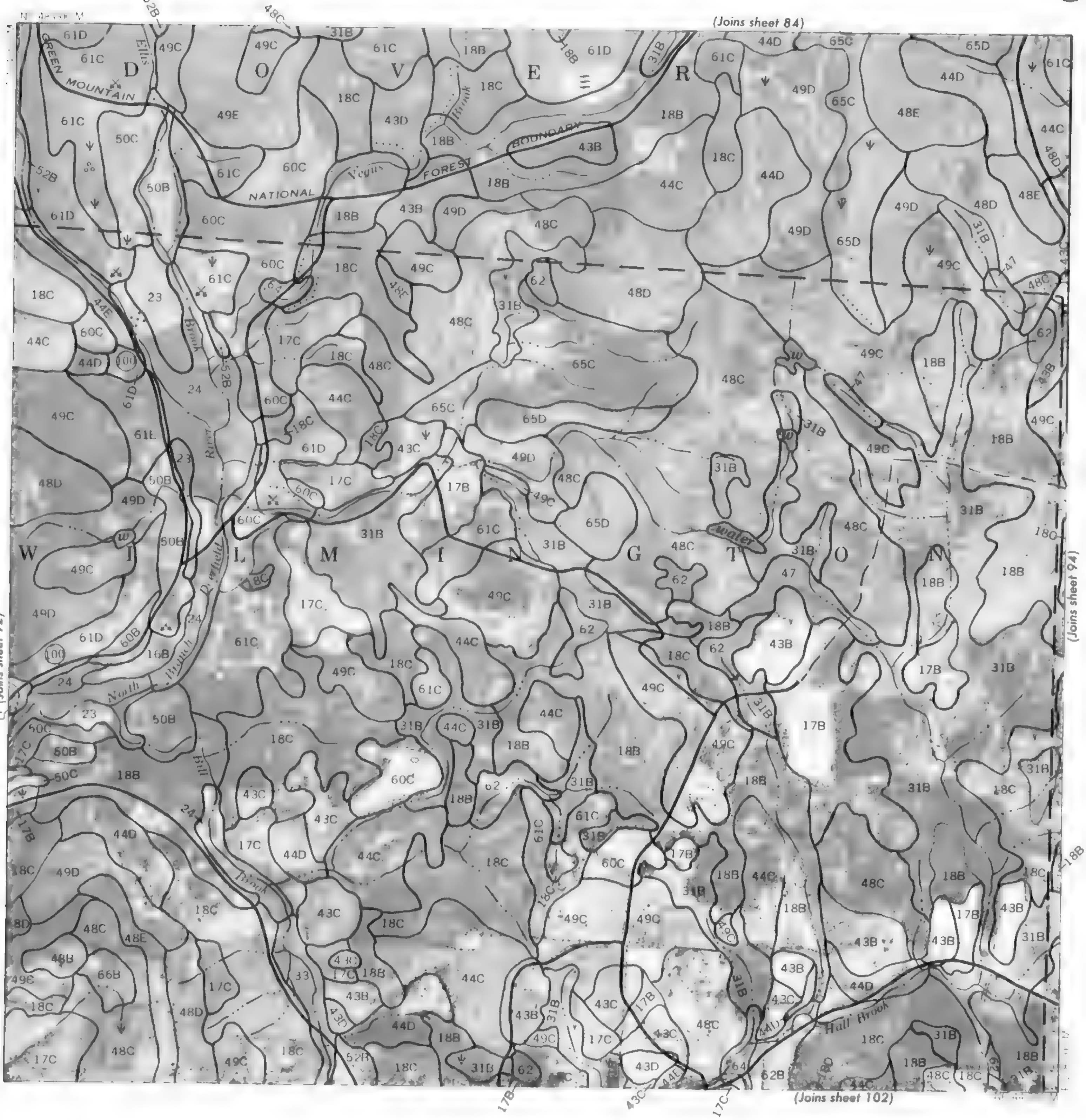


SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

N



SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

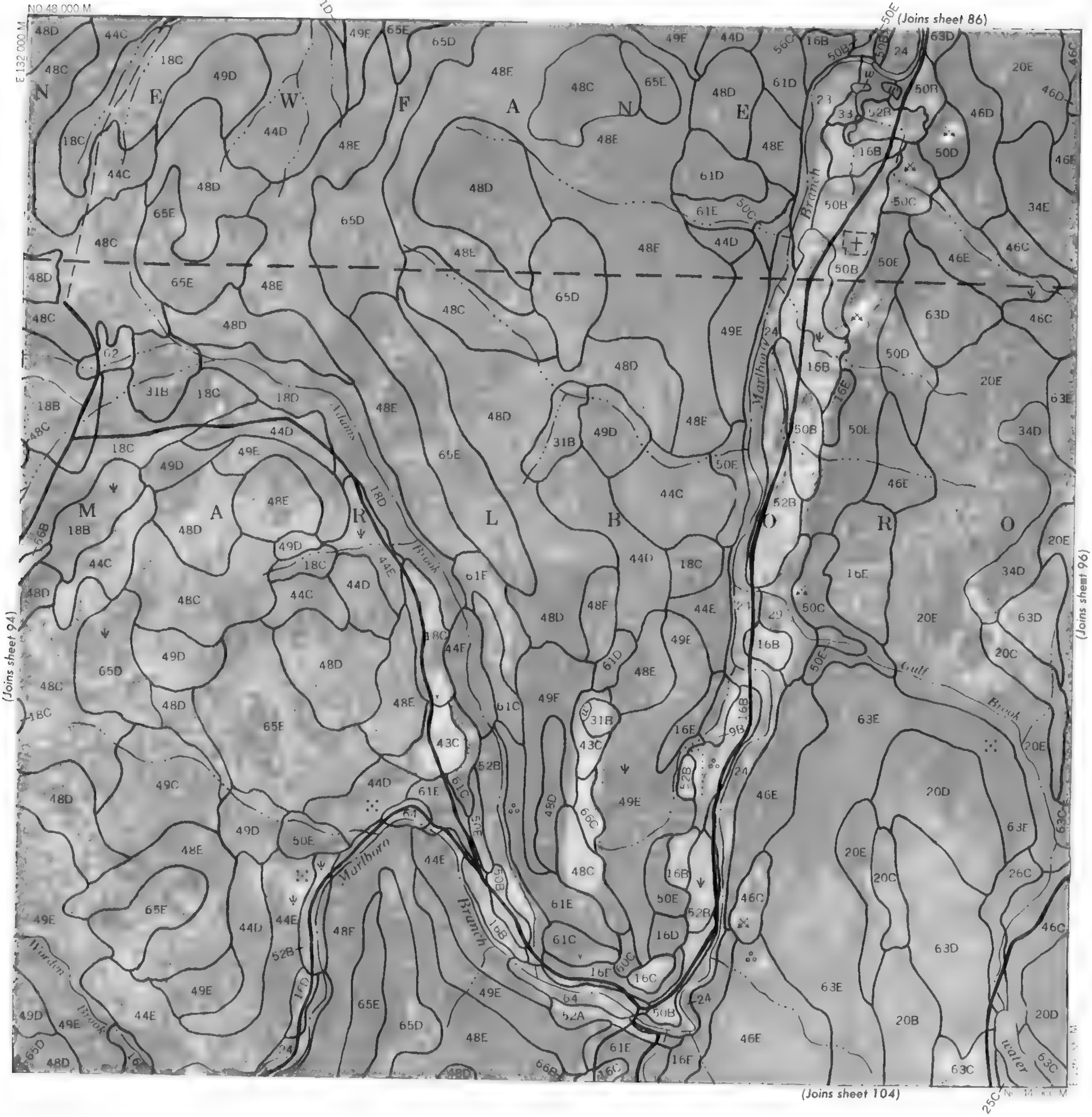
N

SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

N



SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

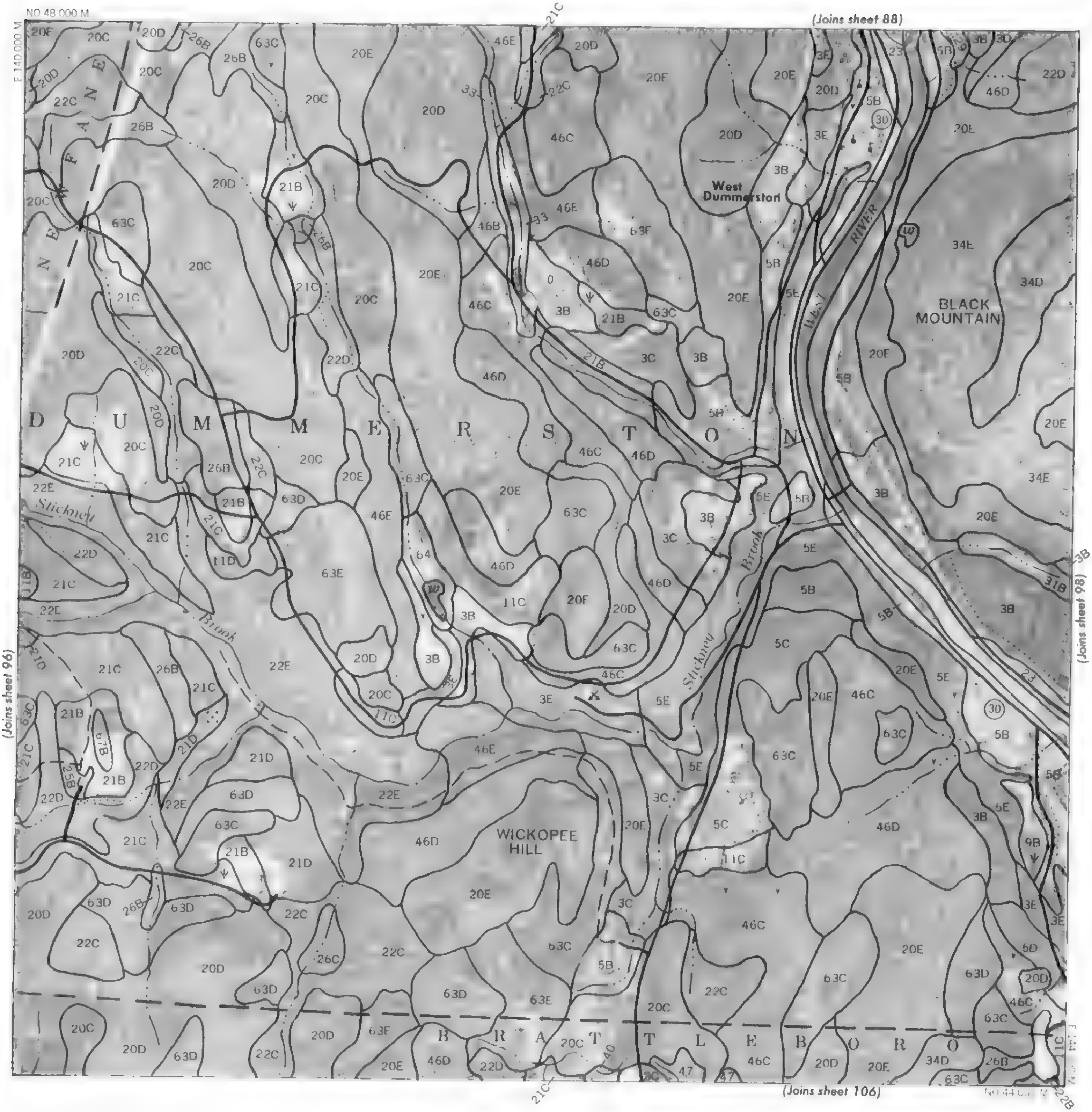
N

SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

N

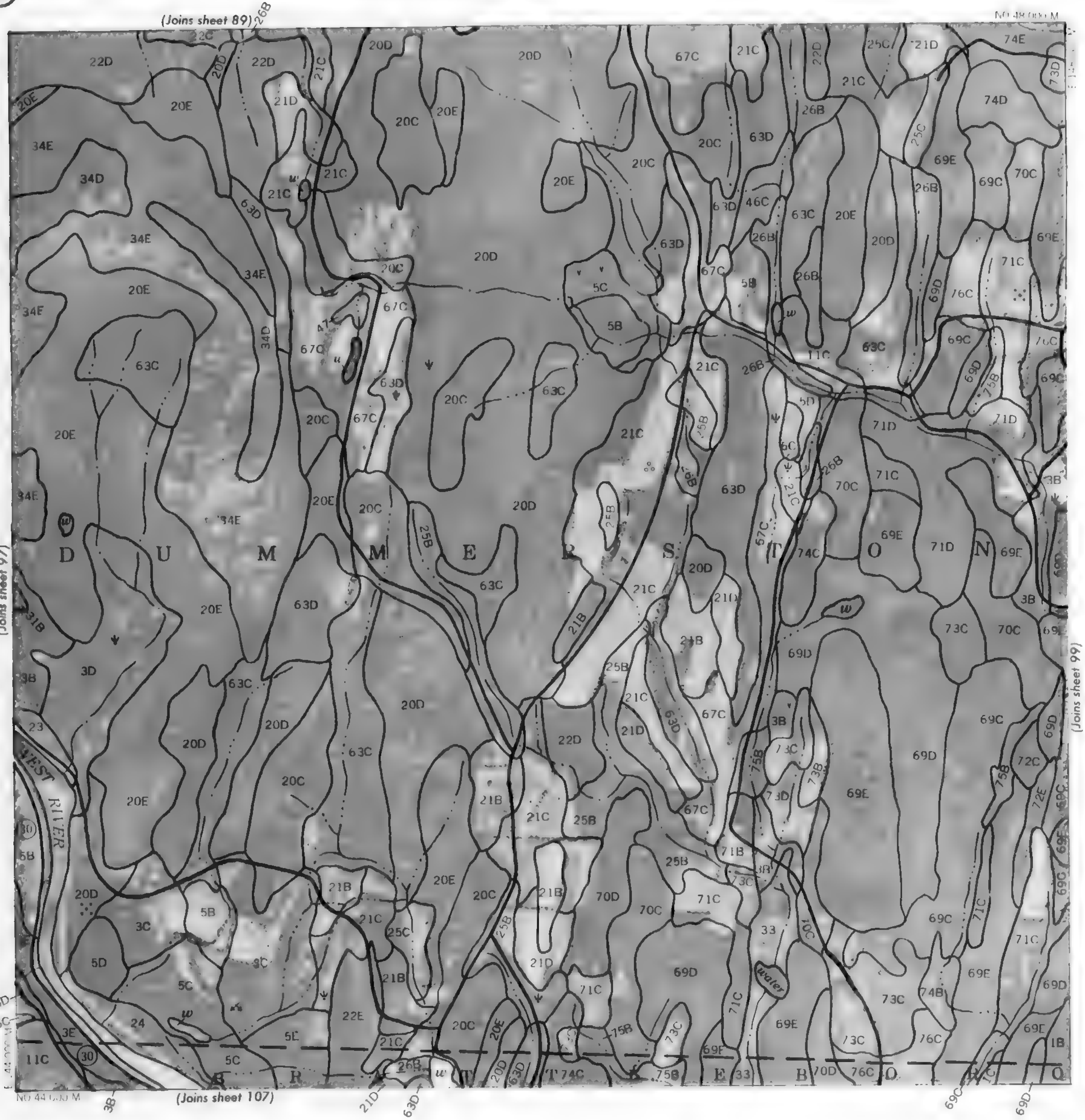


SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

N

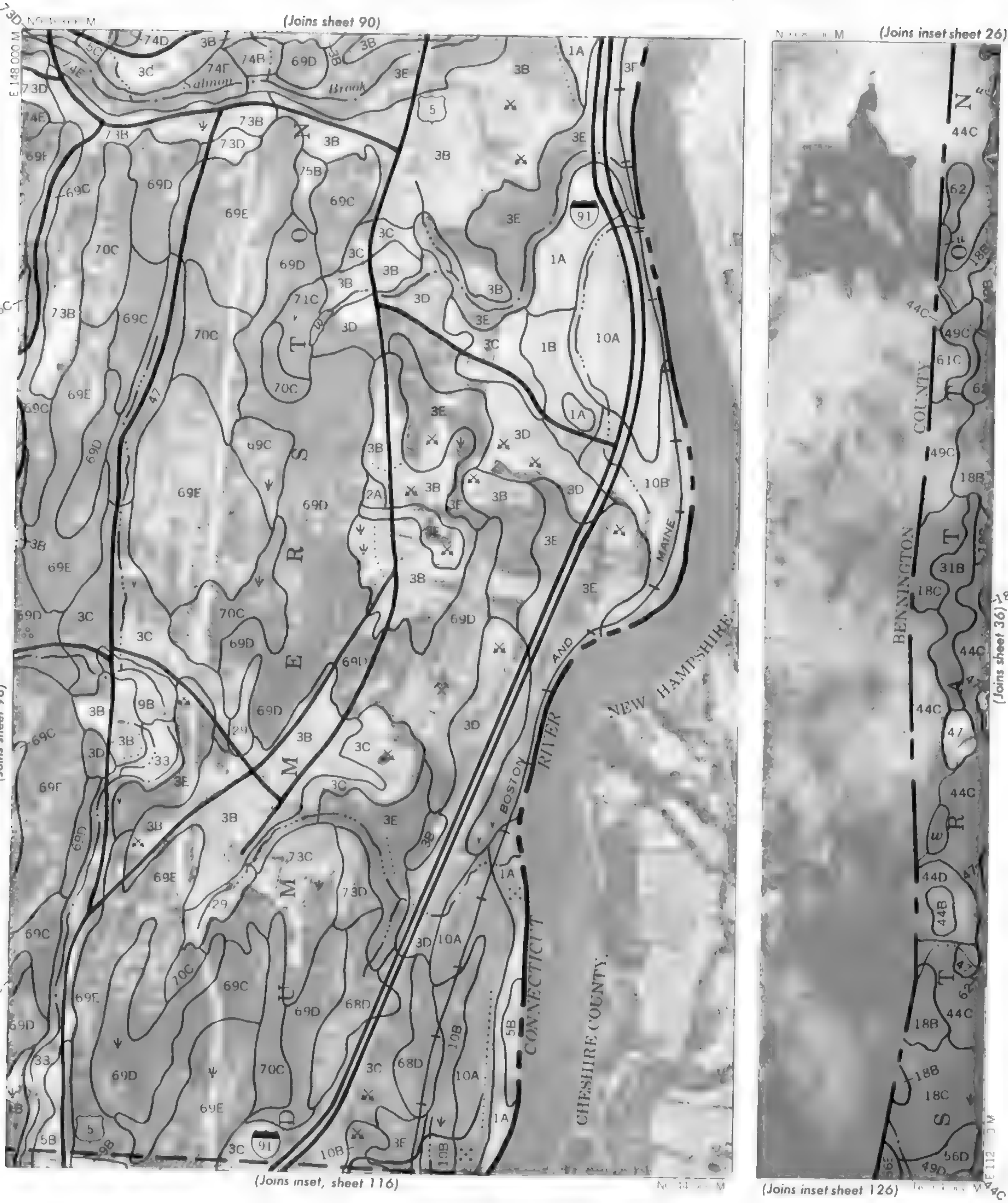


SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

N

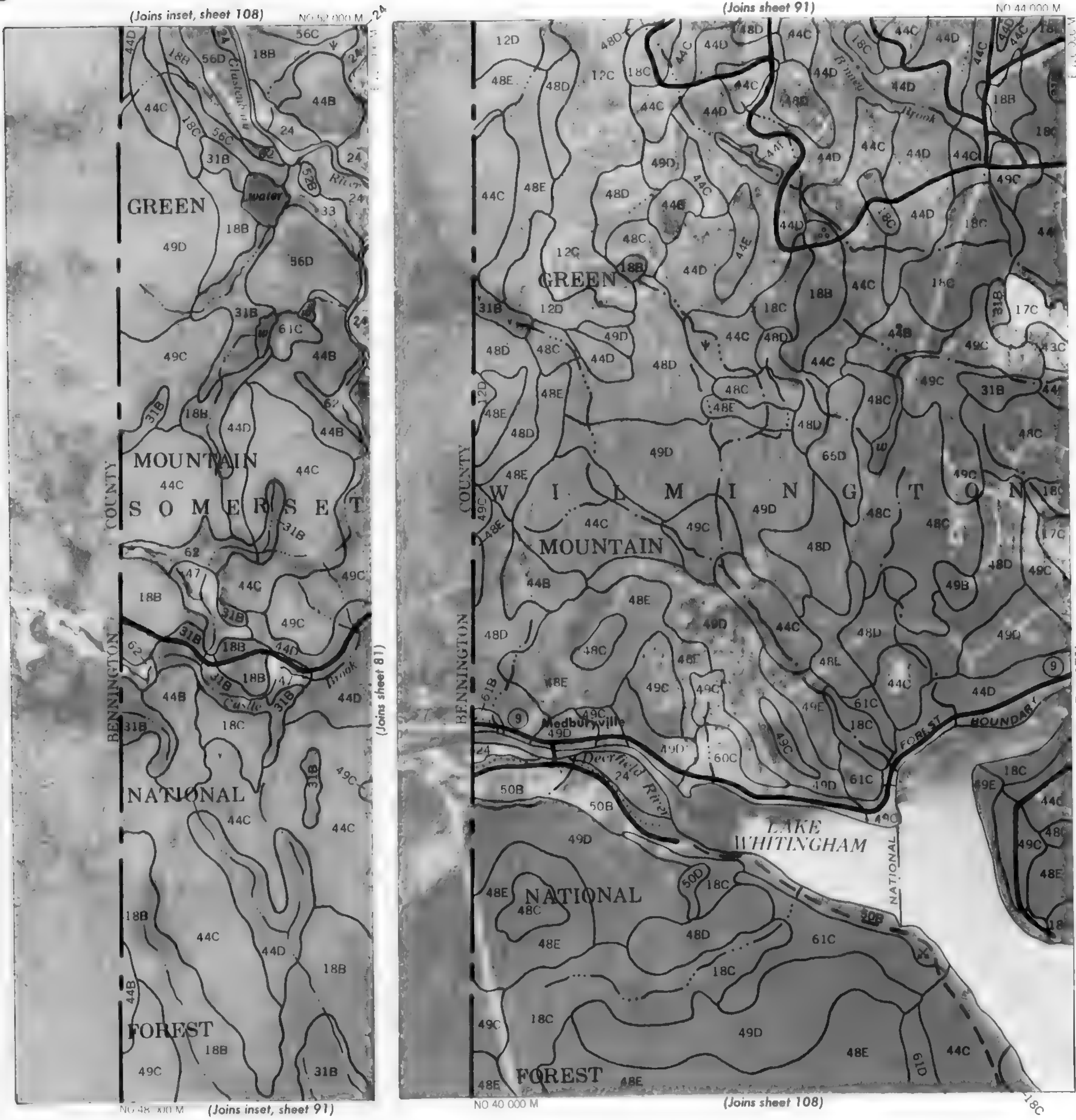


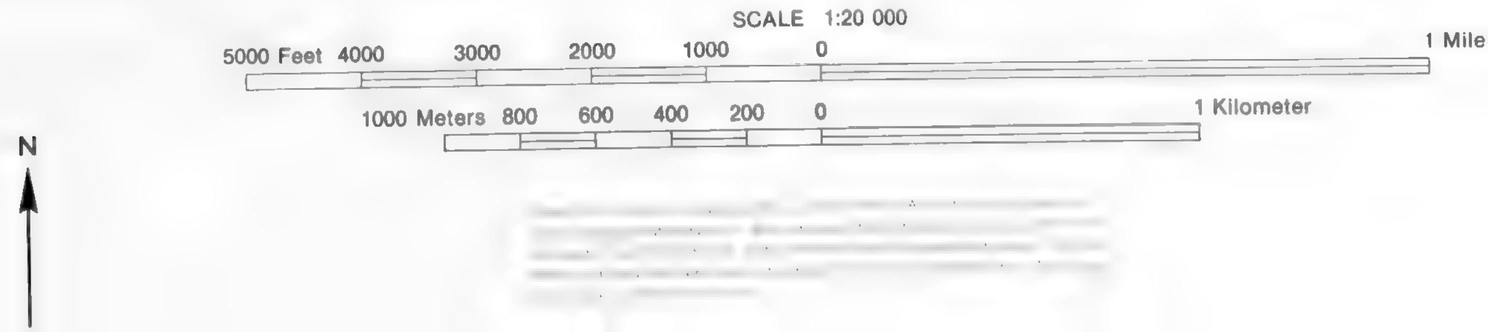
SCALE 1:20 000

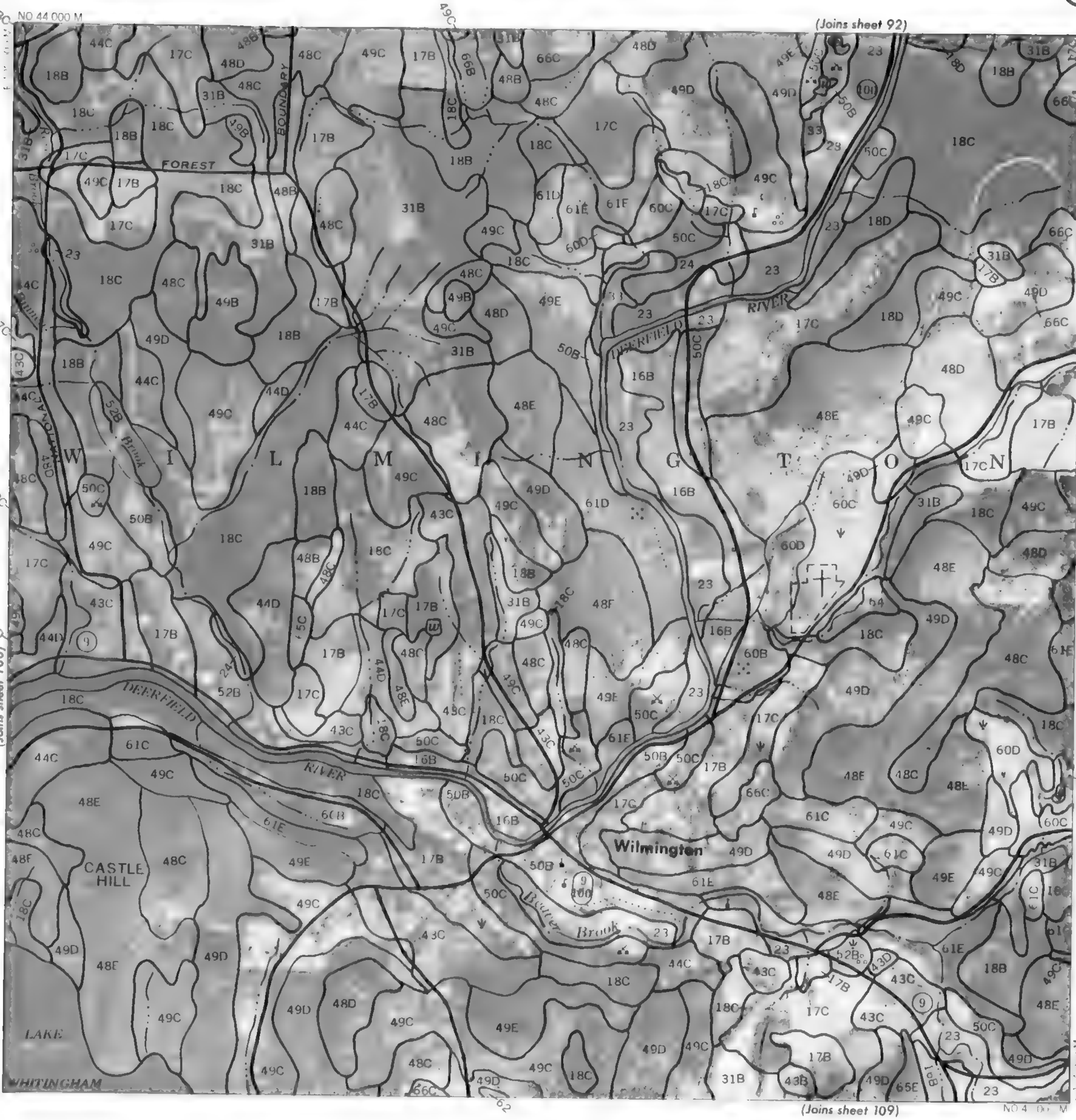
5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

N


(Joins inset, sheet 108)
(Joins sheet 91)
(Joins sheet 81)
(Joins sheet 111)
(Joins inset, sheet 91)
(Joins sheet 108)
NO 40 000 M
NO 44 000 M
GREEN
MOUNTAIN
NATIONAL
FOREST
S O M E R S E T
W I L M I N G T O N
BENNINGTON
COUNTY
Medburyville
Deerfield River
LAKE WHITINGHAM
Castle Brook
Binney Brook
FOREST BOUNDARY
water


SCALE 1:20 000
5000 Feet 4000 3000 2000 1000 0
1 Mile
1000 Meters 800 600 400 200 0
1 Kilometer
N

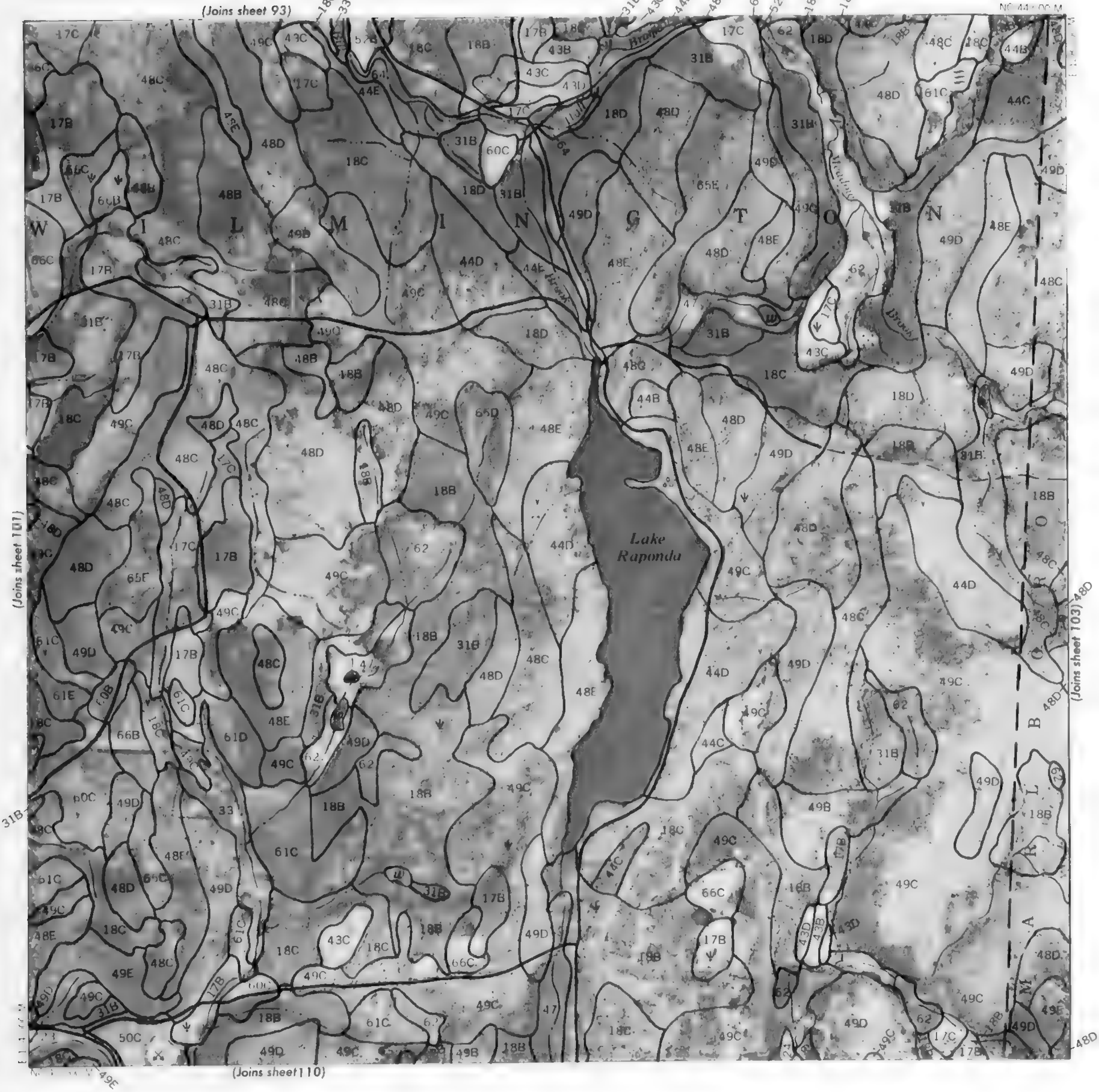


SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

N

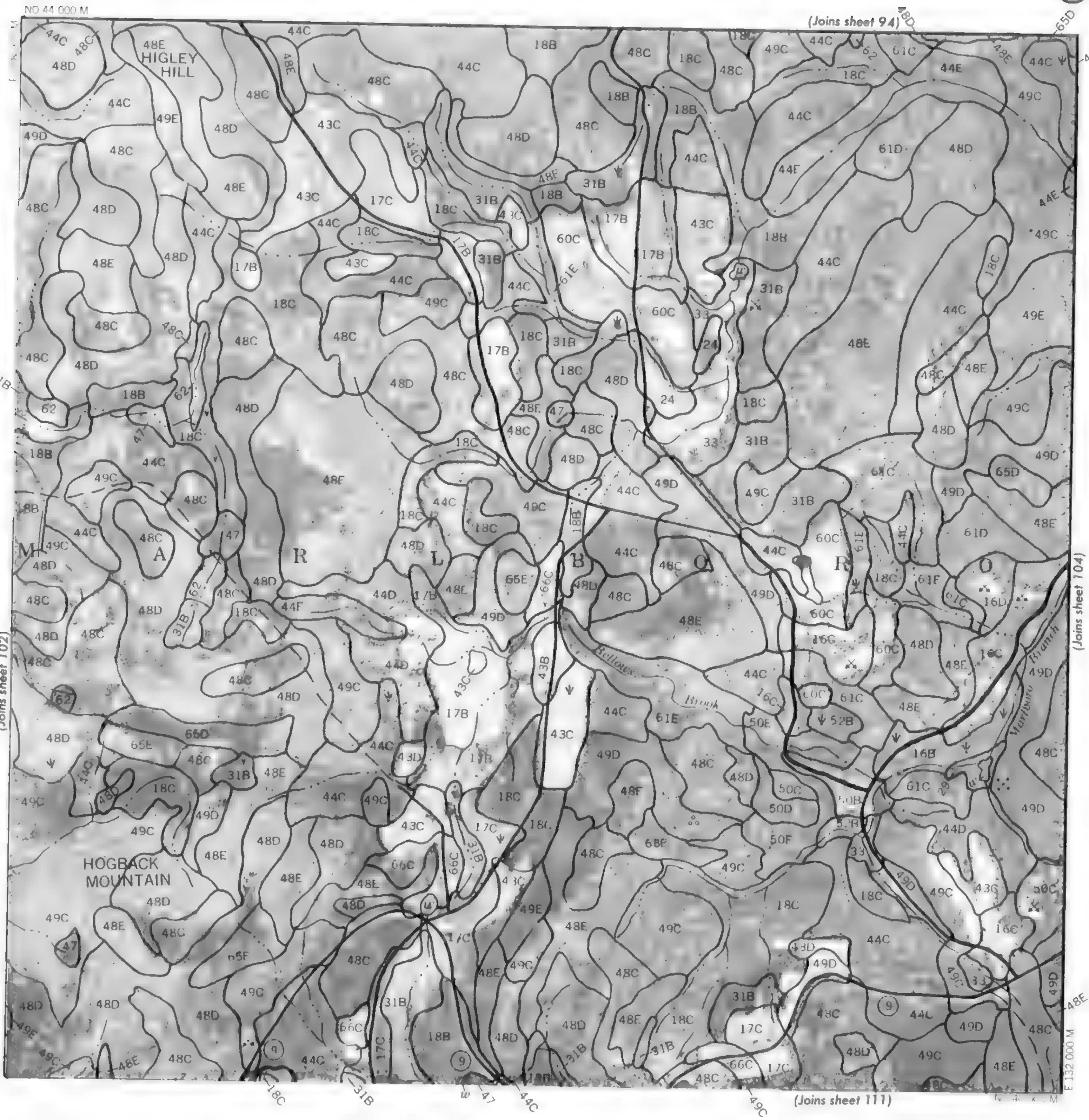


SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

N



SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

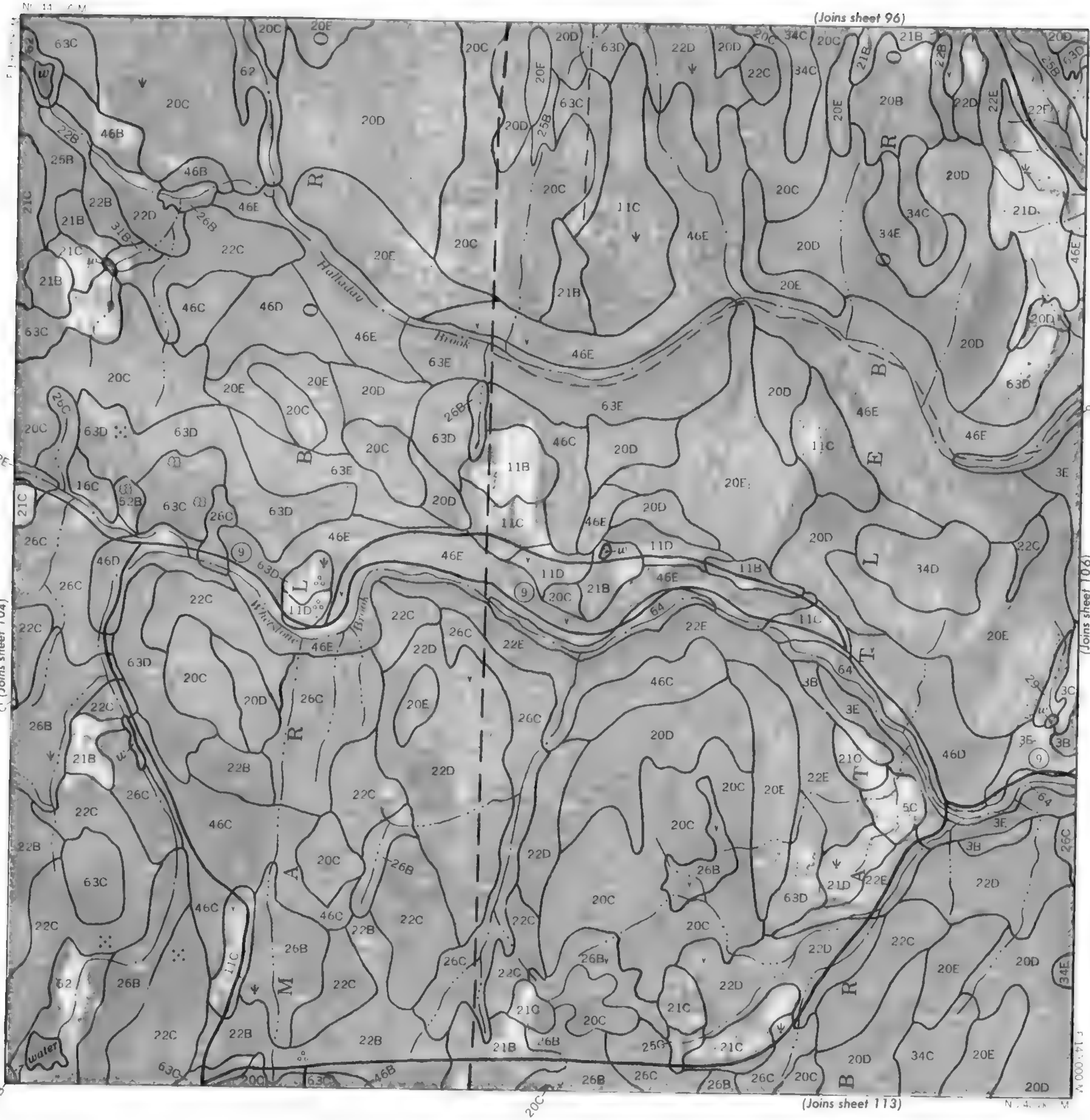
N

SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

N



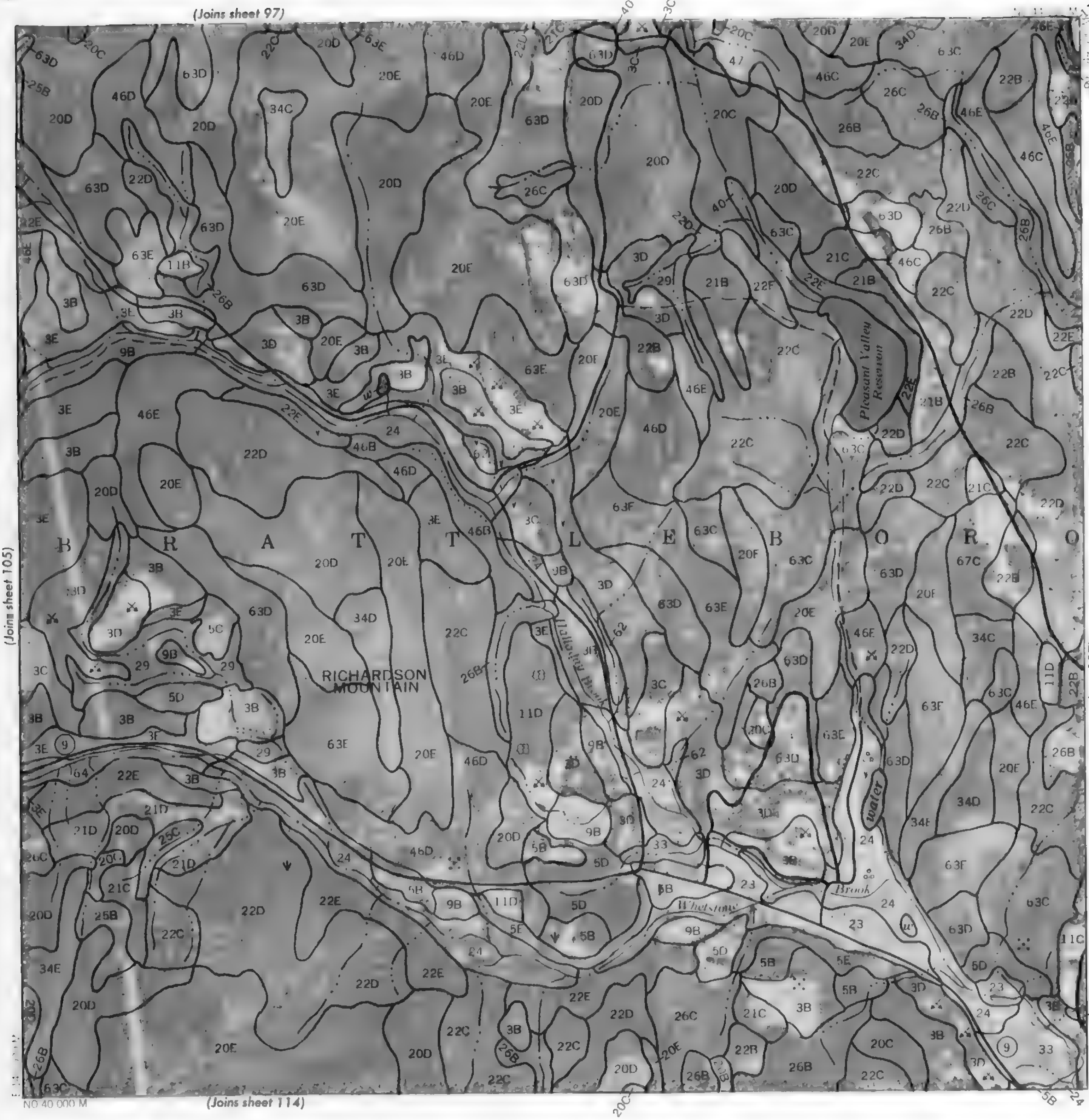
SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

N

The soil survey was compiled by the U.S. Department of Agriculture, Soil Conservation S... and cooperating agencies. Base maps are orthophotographs prepared by the ... Valuation and Review, State of Vermont from 1975 aerial photogra... e divided into 4000 meter interval on the Vermont Coordinate System. The grid on the photo image is in a 500 meter interval.



SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

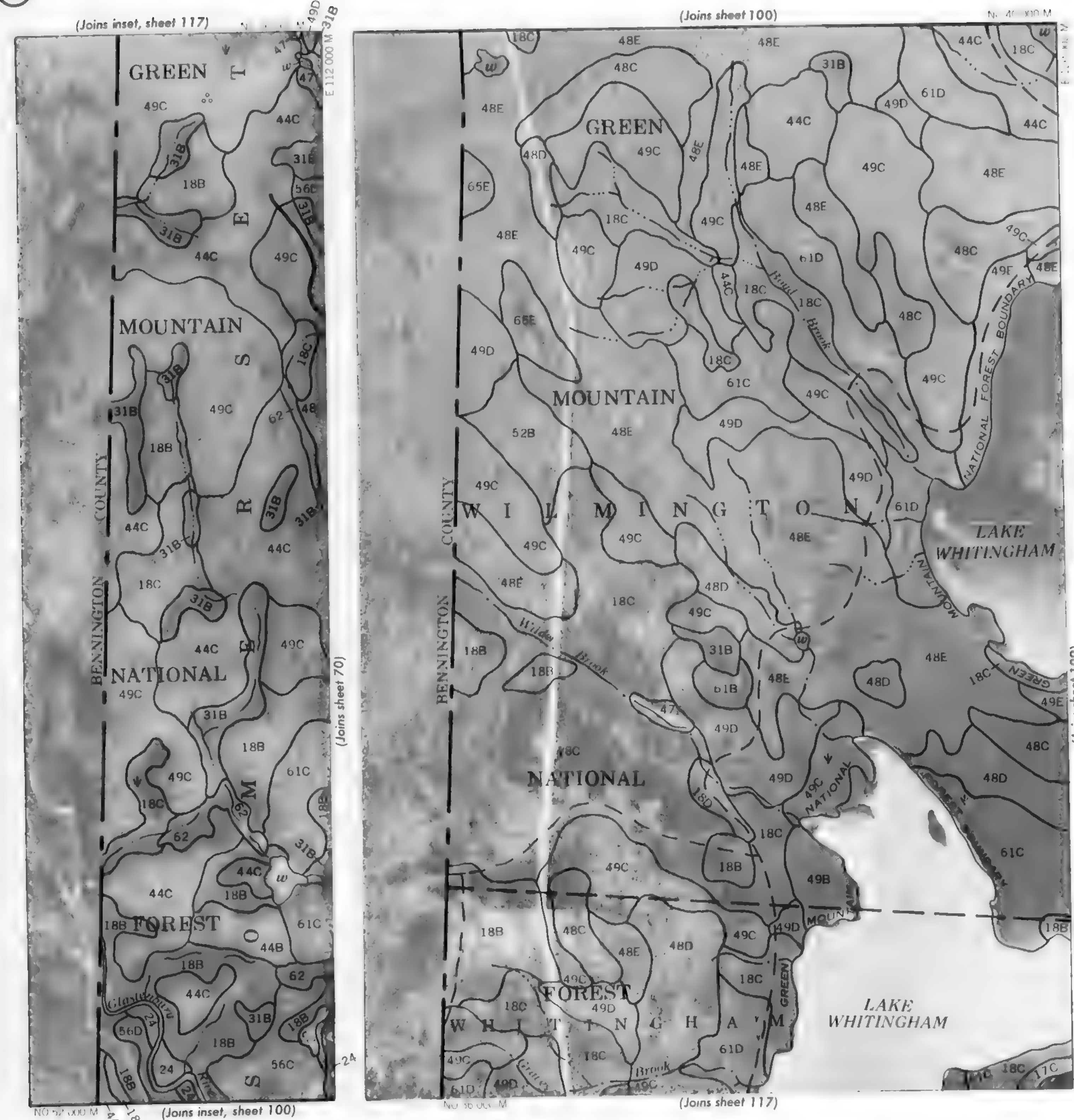
N

SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

N

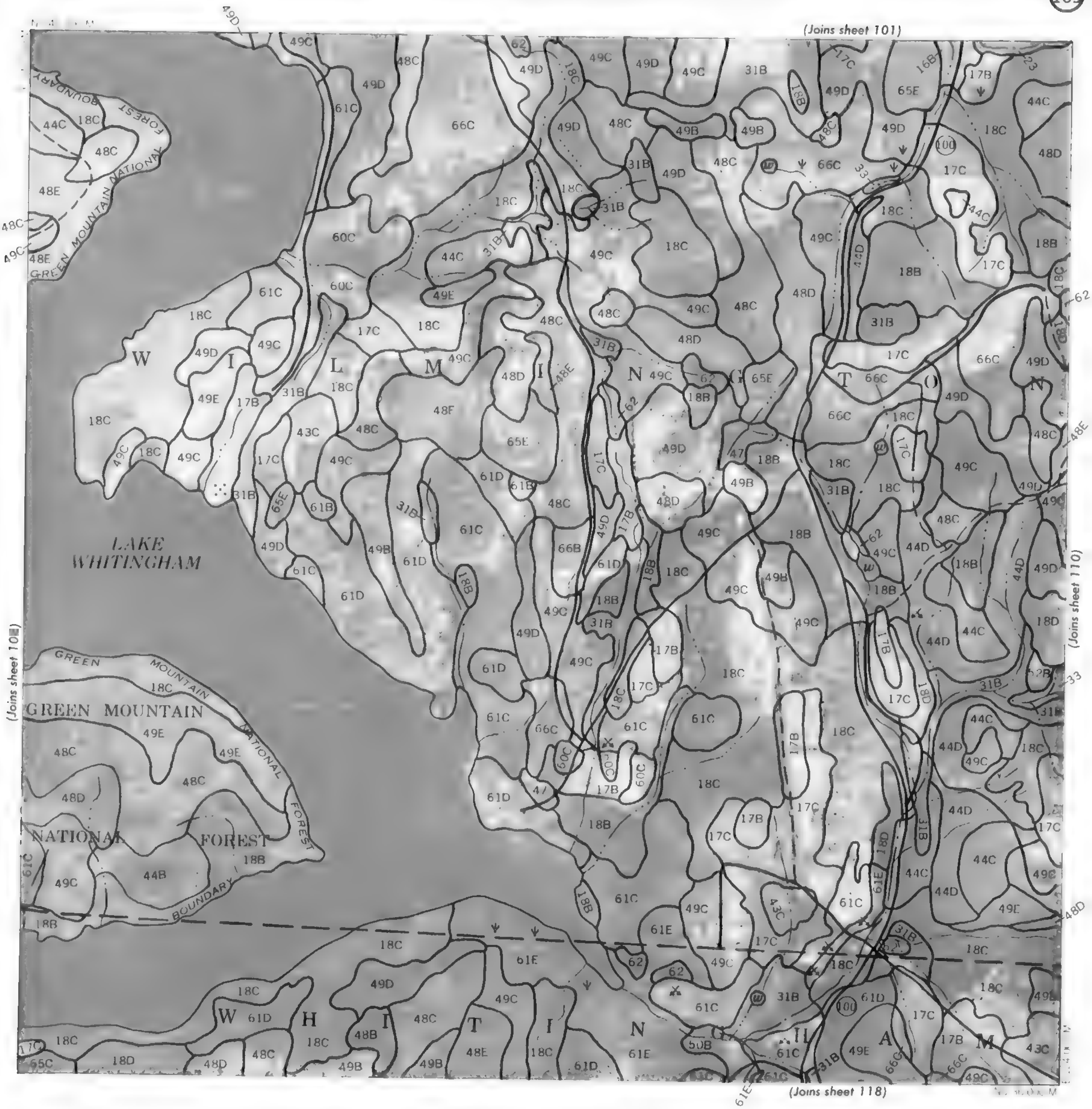


SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

N

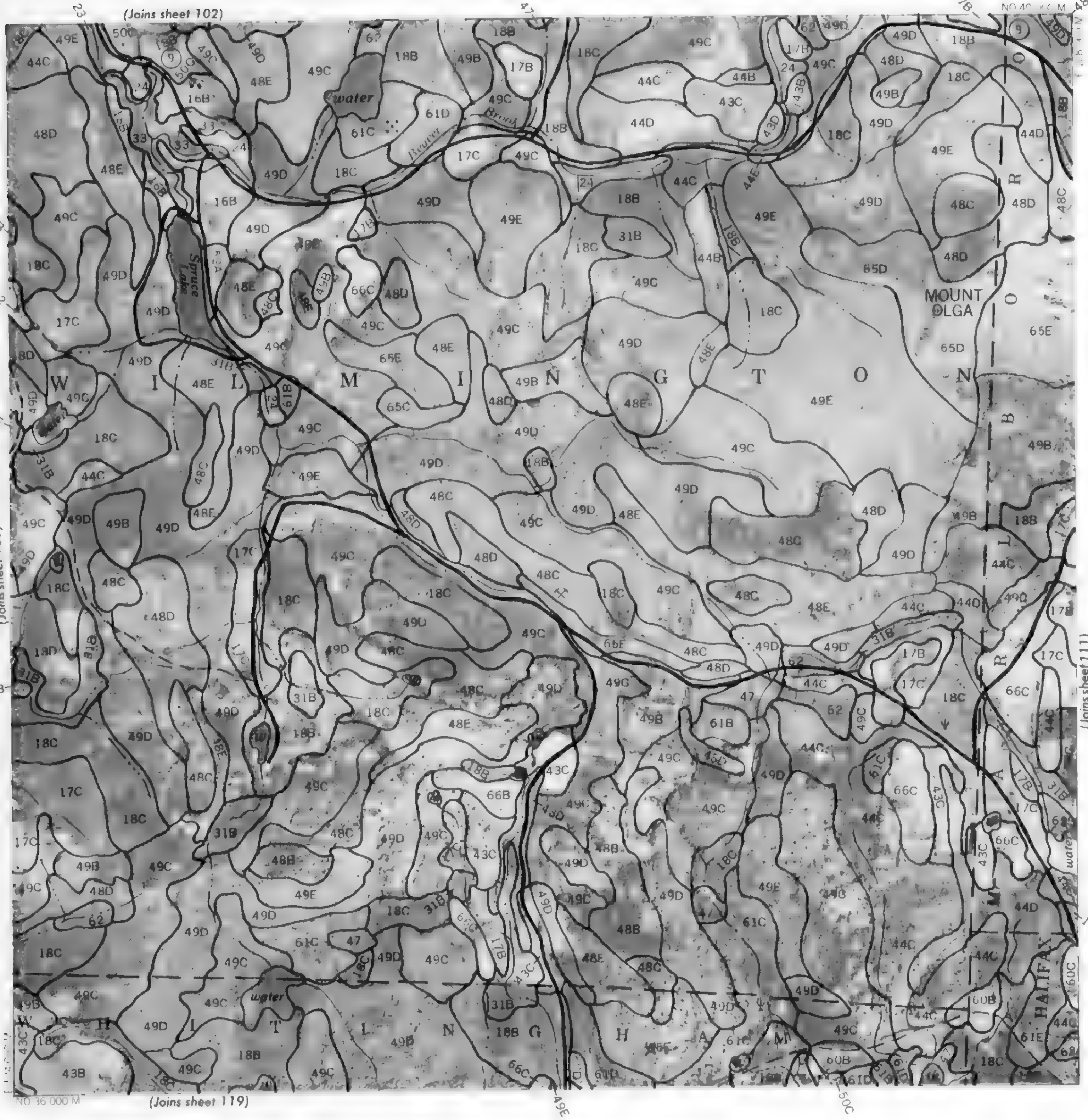


SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

N

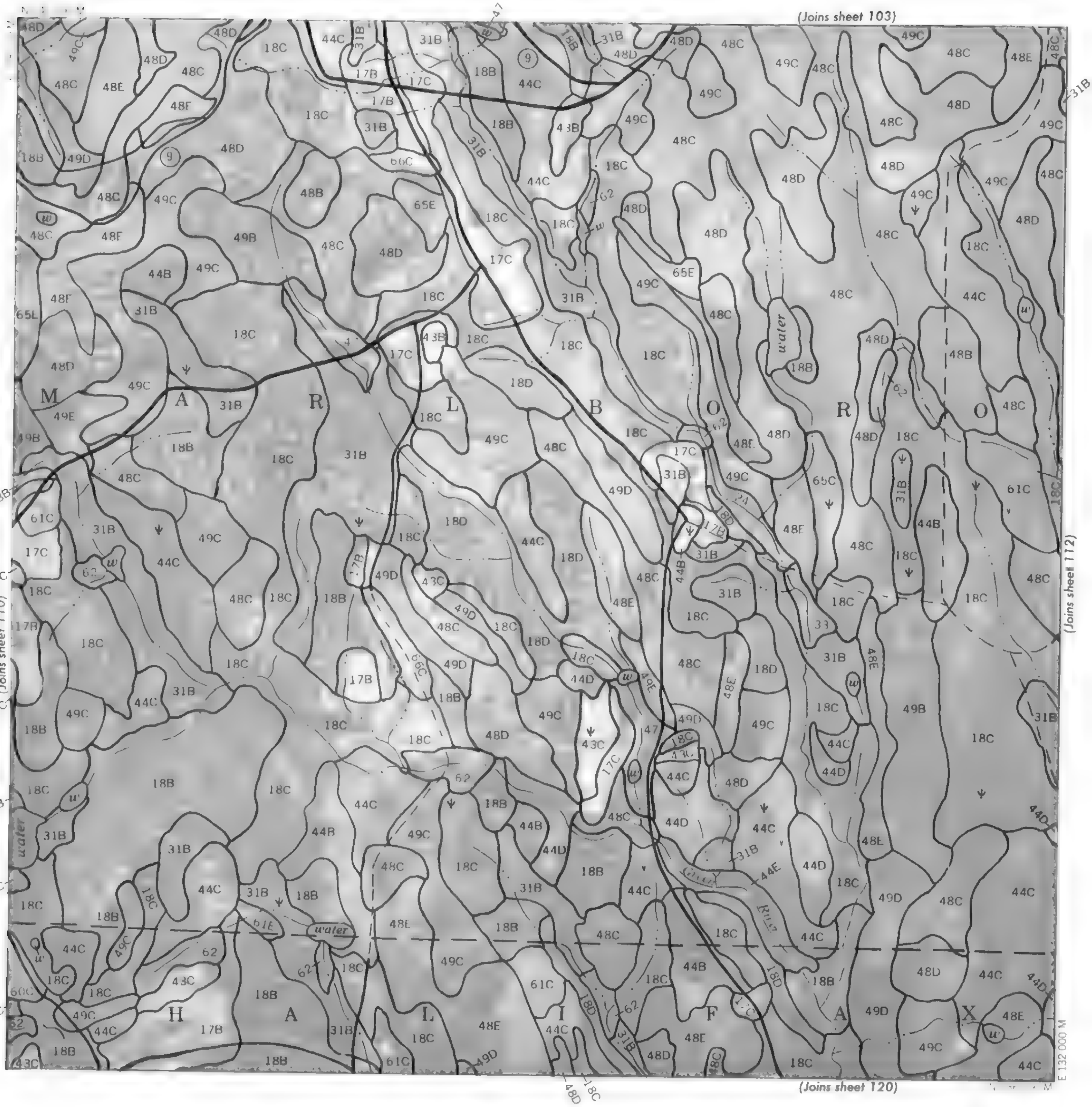


SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

N

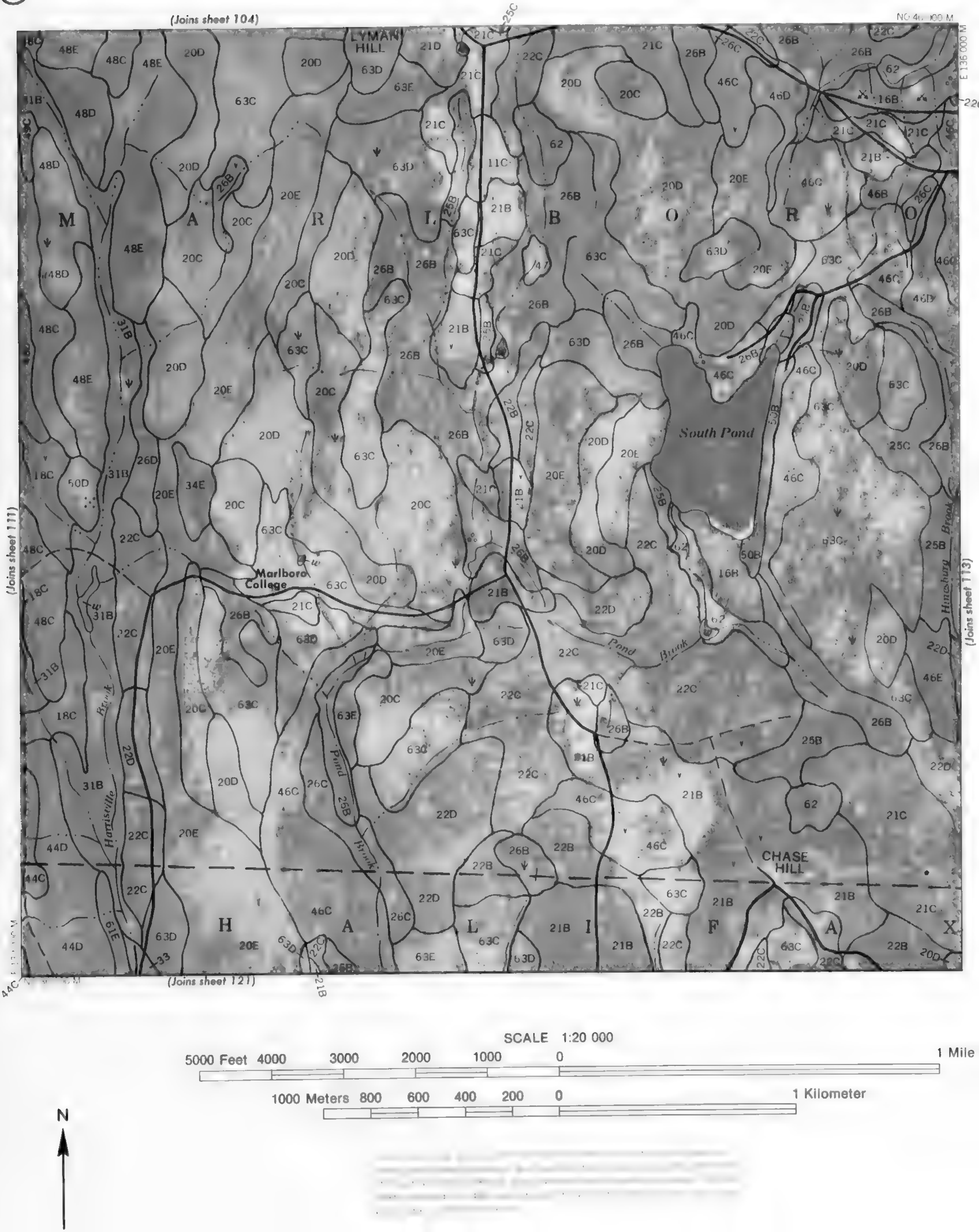


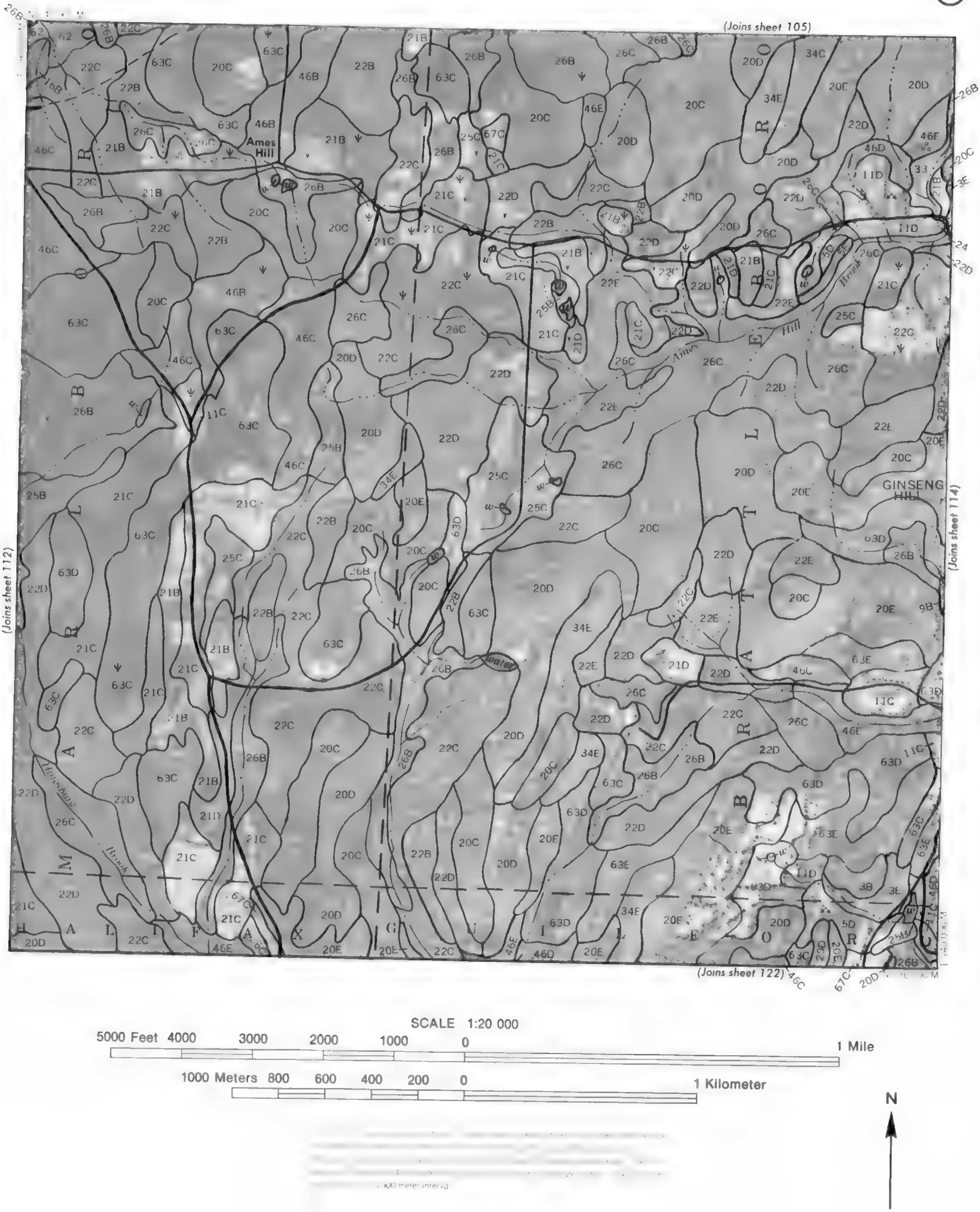
SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

N


(Joins sheet 104)
(Joins sheet 111)
(Joins sheet 113)
(Joins sheet 121)
LYMAN HILL
Marlboro College
South Pond
CHASE HILL
Pond Brook
Hinesburg Brook
Harrisville Brook
M A R L B O R O
H A L I F A X
SCALE 1:20 000
5000 Feet 4000 3000 2000 1000 0 1 Mile
1000 Meters 800 600 400 200 0 1 Kilometer
N

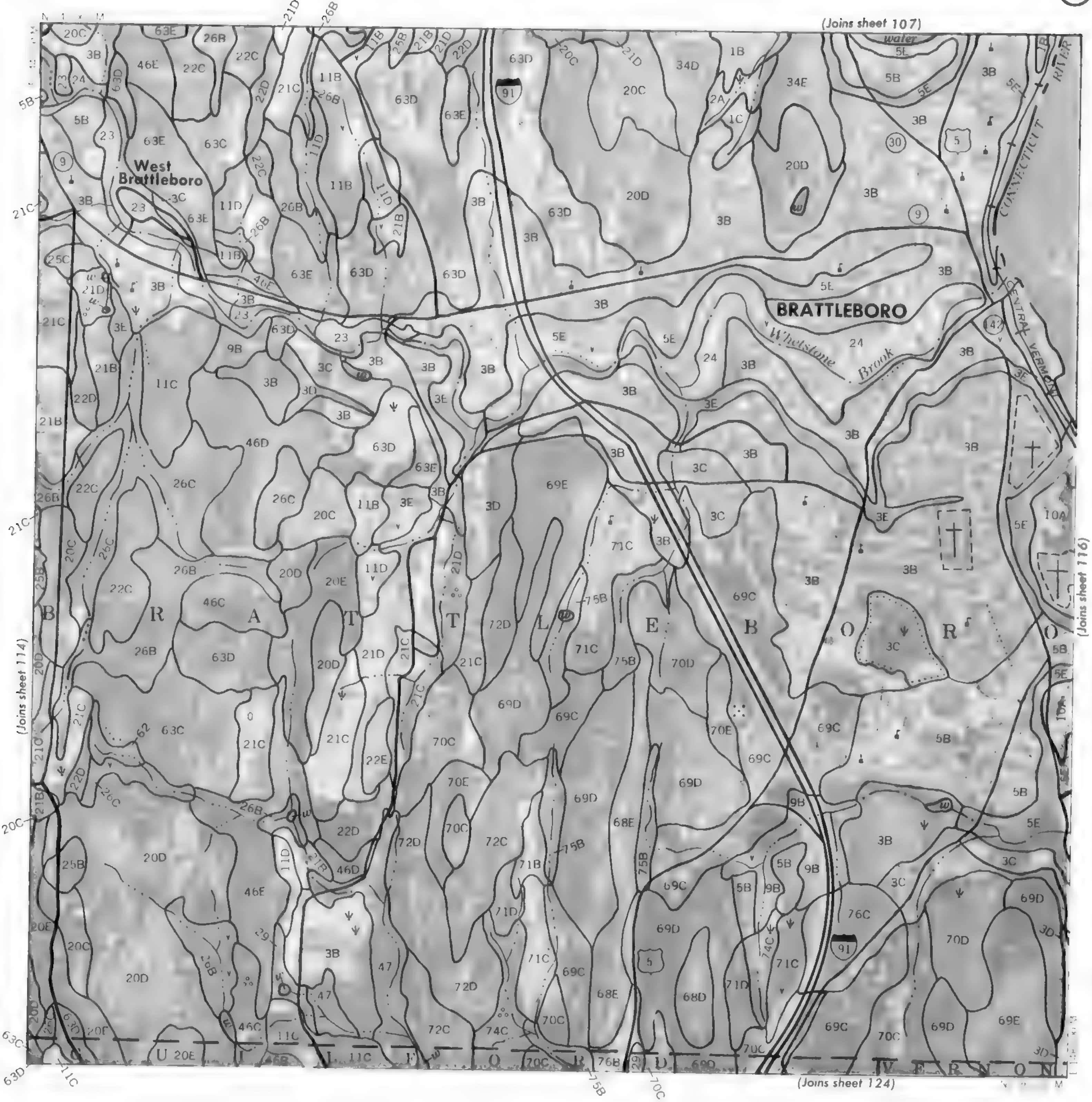

(Joins sheet 105)
(Joins sheet 112)
(Joins sheet 114)
(Joins sheet 122)
Ames Hill
Ames Hill
GINSENG HILL
Brook
water
HALIFAX
GUILFORD
BRATTLEBORO
SCALE 1:20 000
5000 Feet 4000 3000 2000 1000 0
1 Mile
1000 Meters 800 600 400 200 0
1 Kilometer
N

SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

N



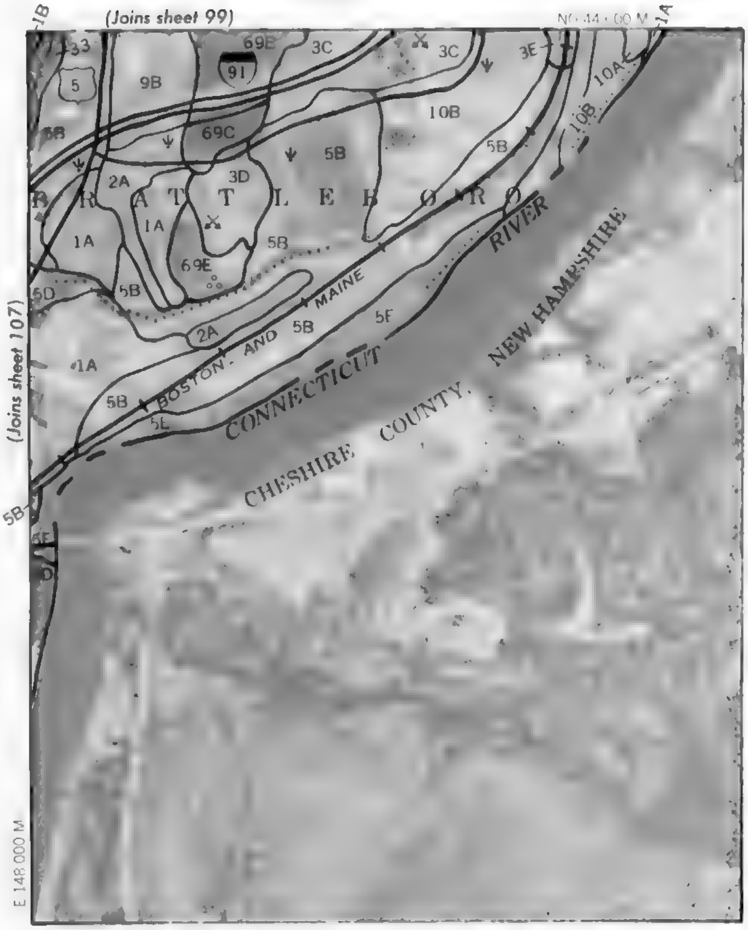
SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

N

INSET



SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

N

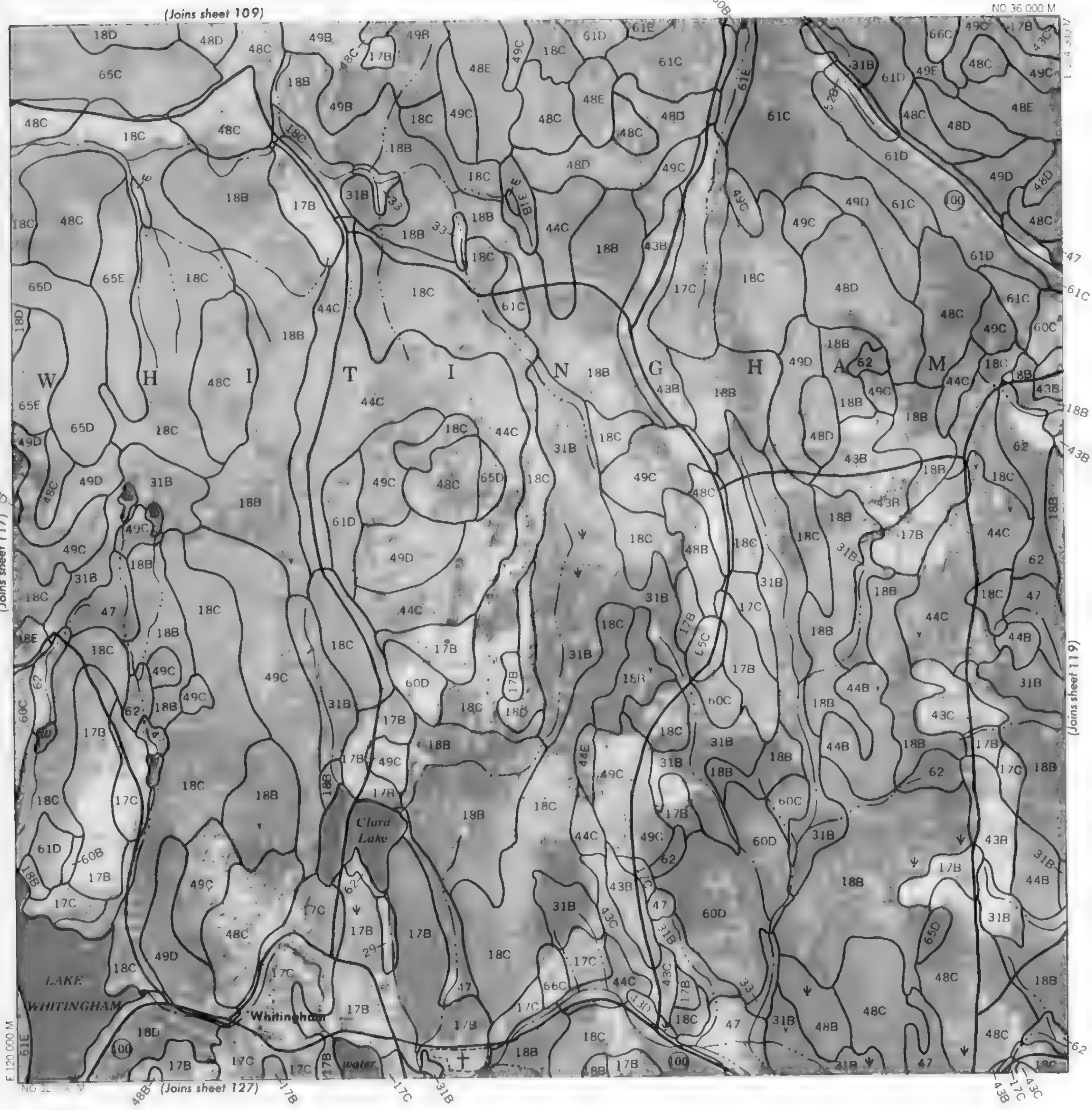
The soil survey map was compiled by the U S Department of Agriculture, Soil Conservation Service, and cooperating agencies Base maps are orthophotographs prepared by the Division of Property Valuation and Review State of Vermont from 1975 aerial photography The map sheets are divided into a 4000 meter interval on the Vermont Coordinate System The grid or photo image is in 500 meter interva

SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

N

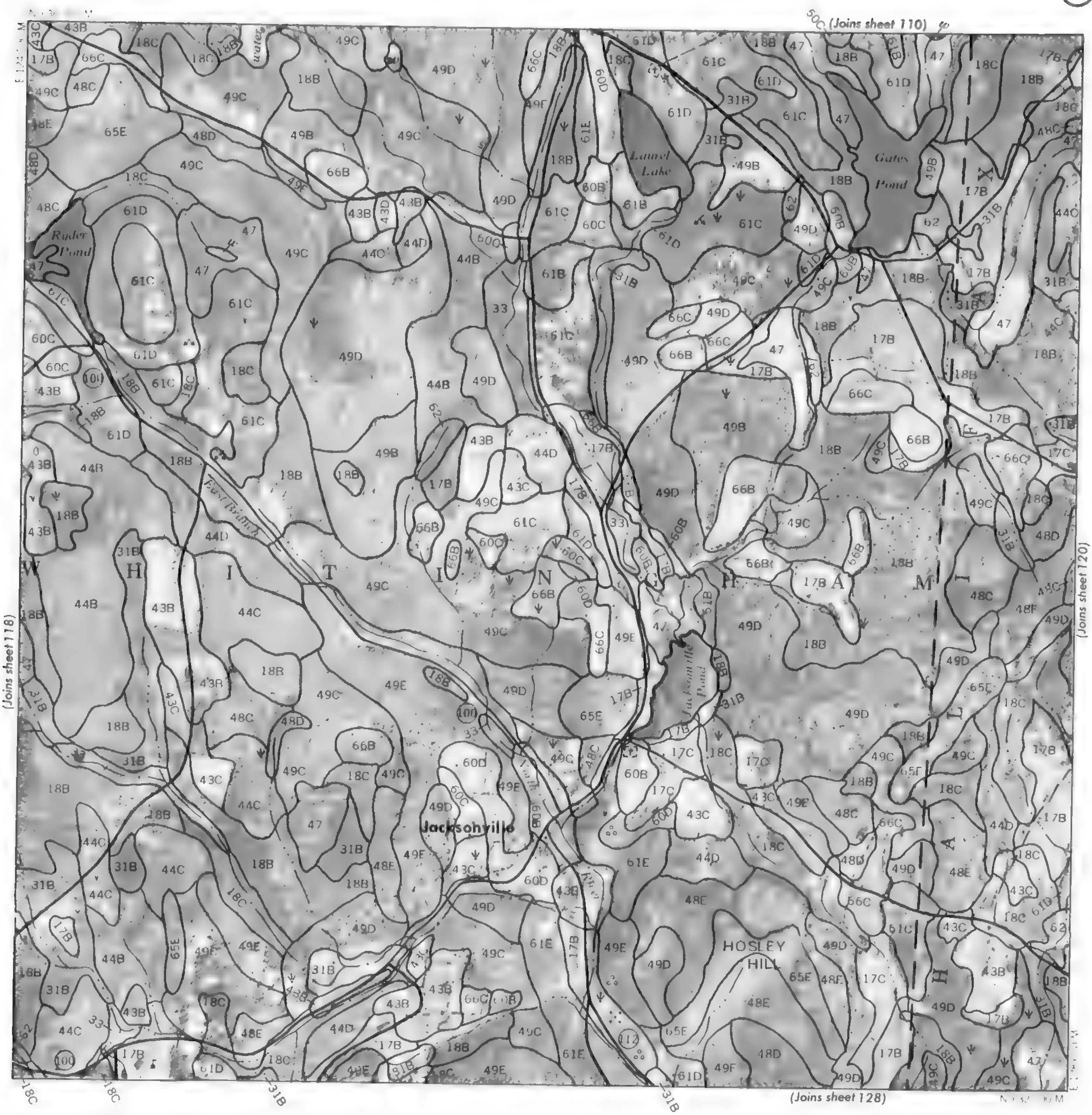


SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

N

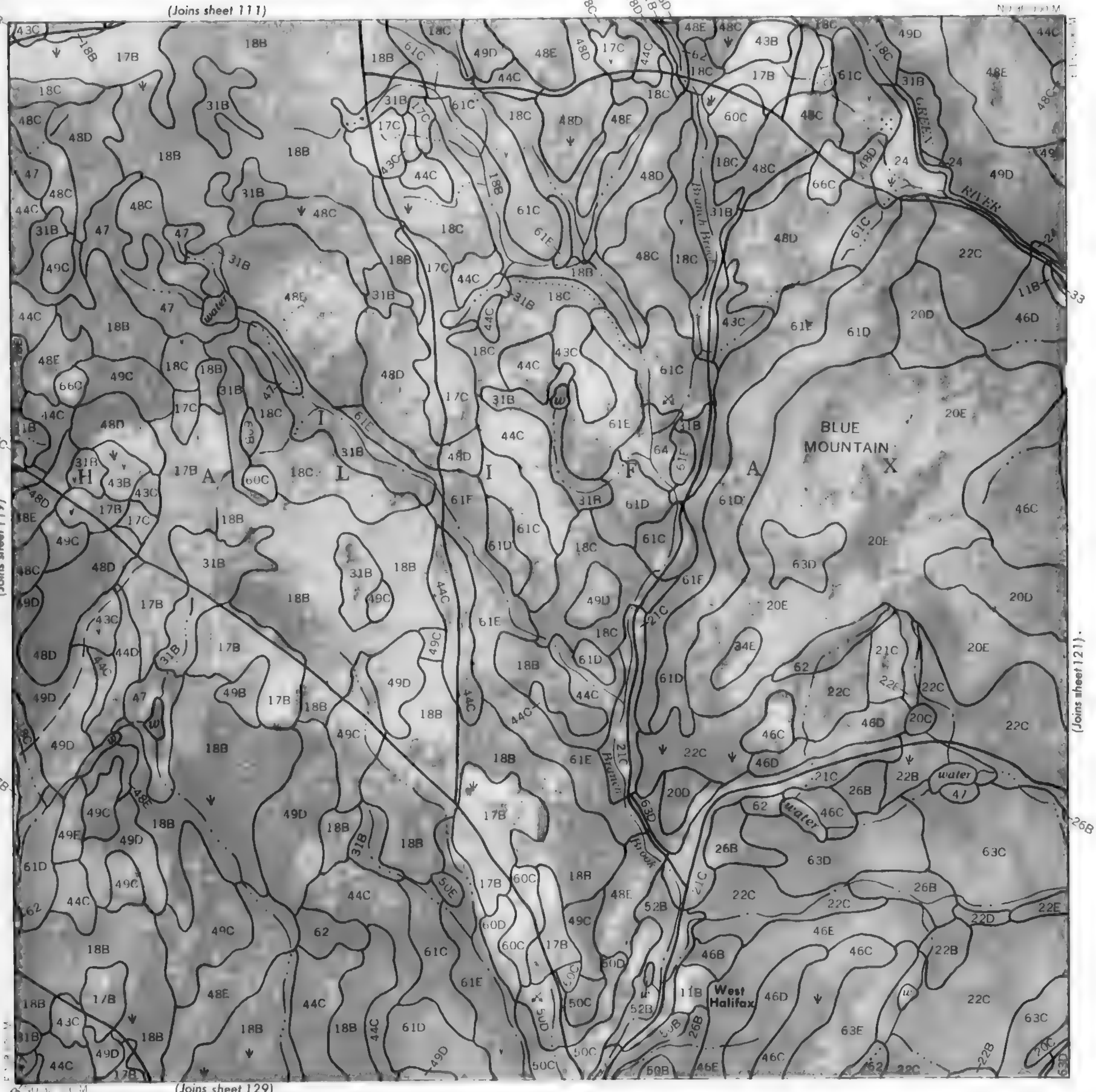


SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

N

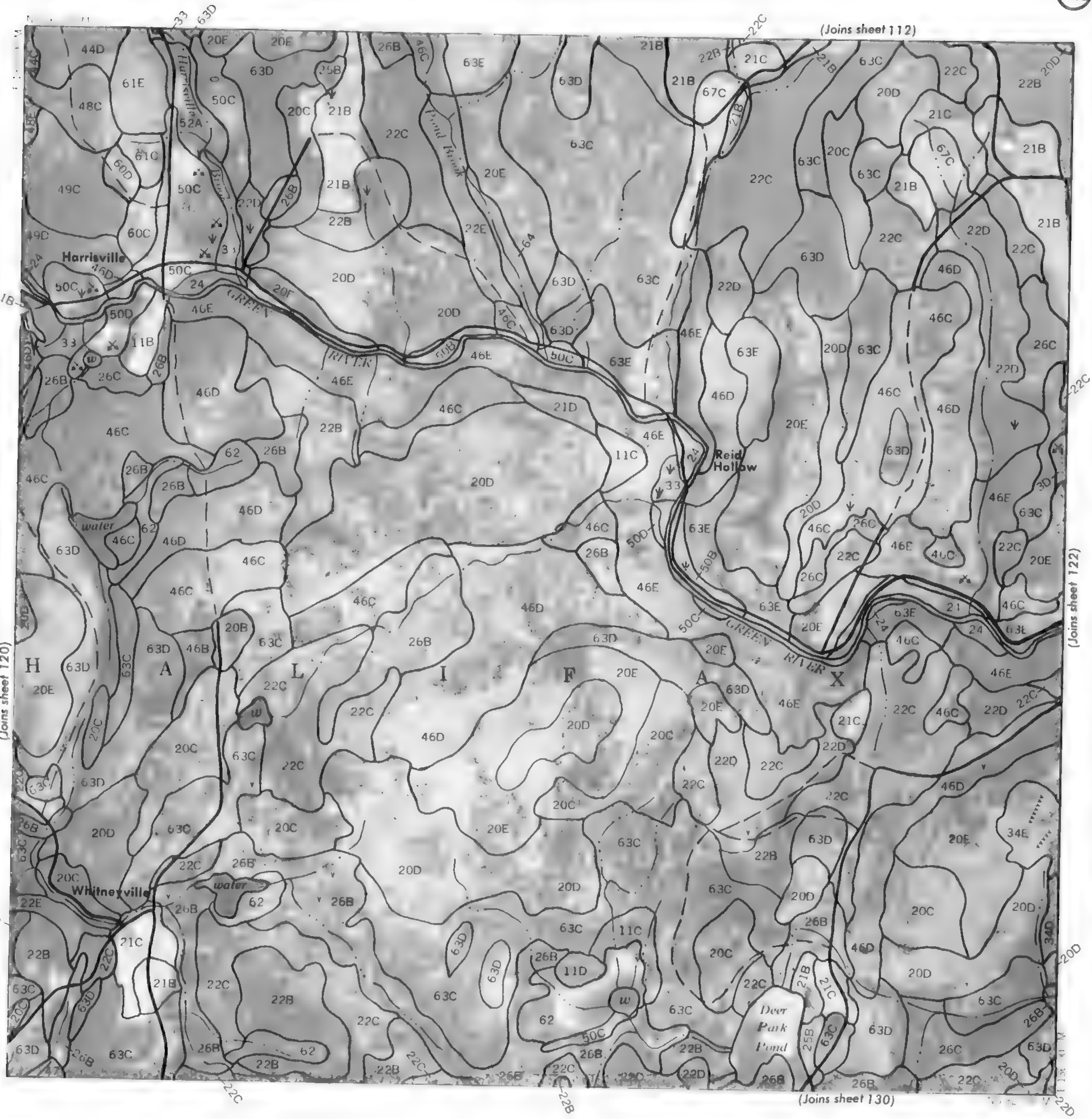


SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

N

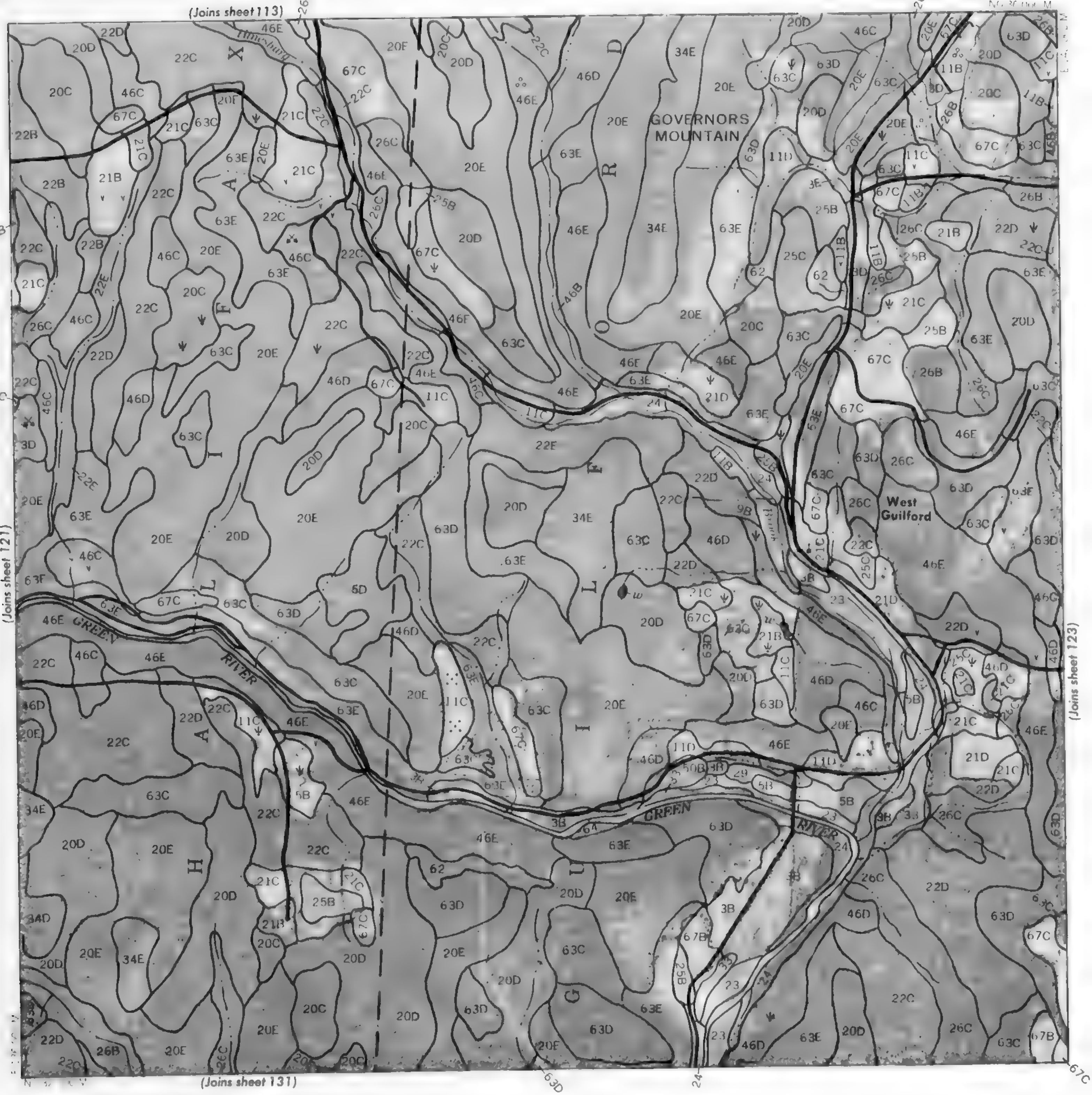


SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

N

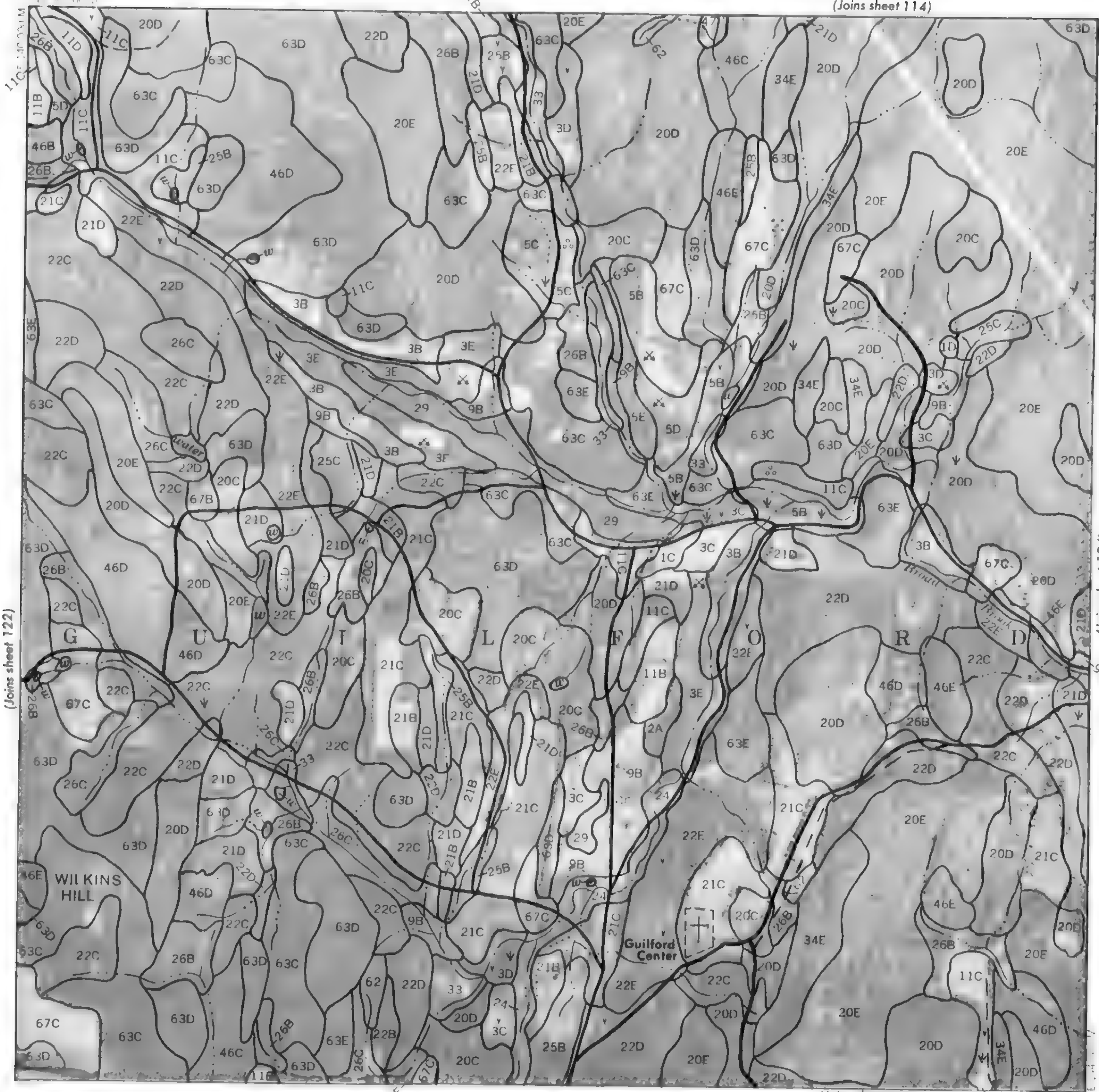


SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

N

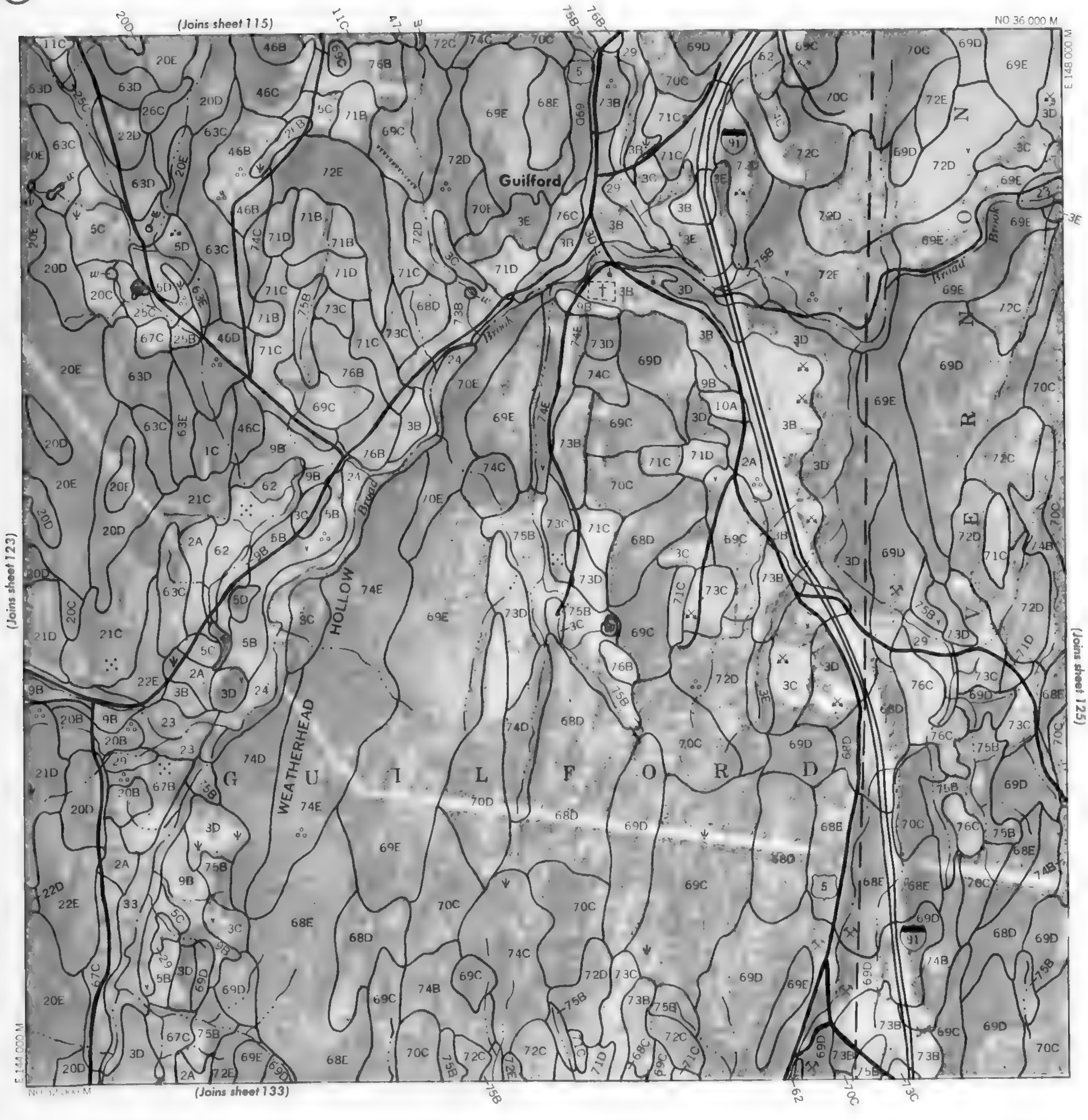


SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

N

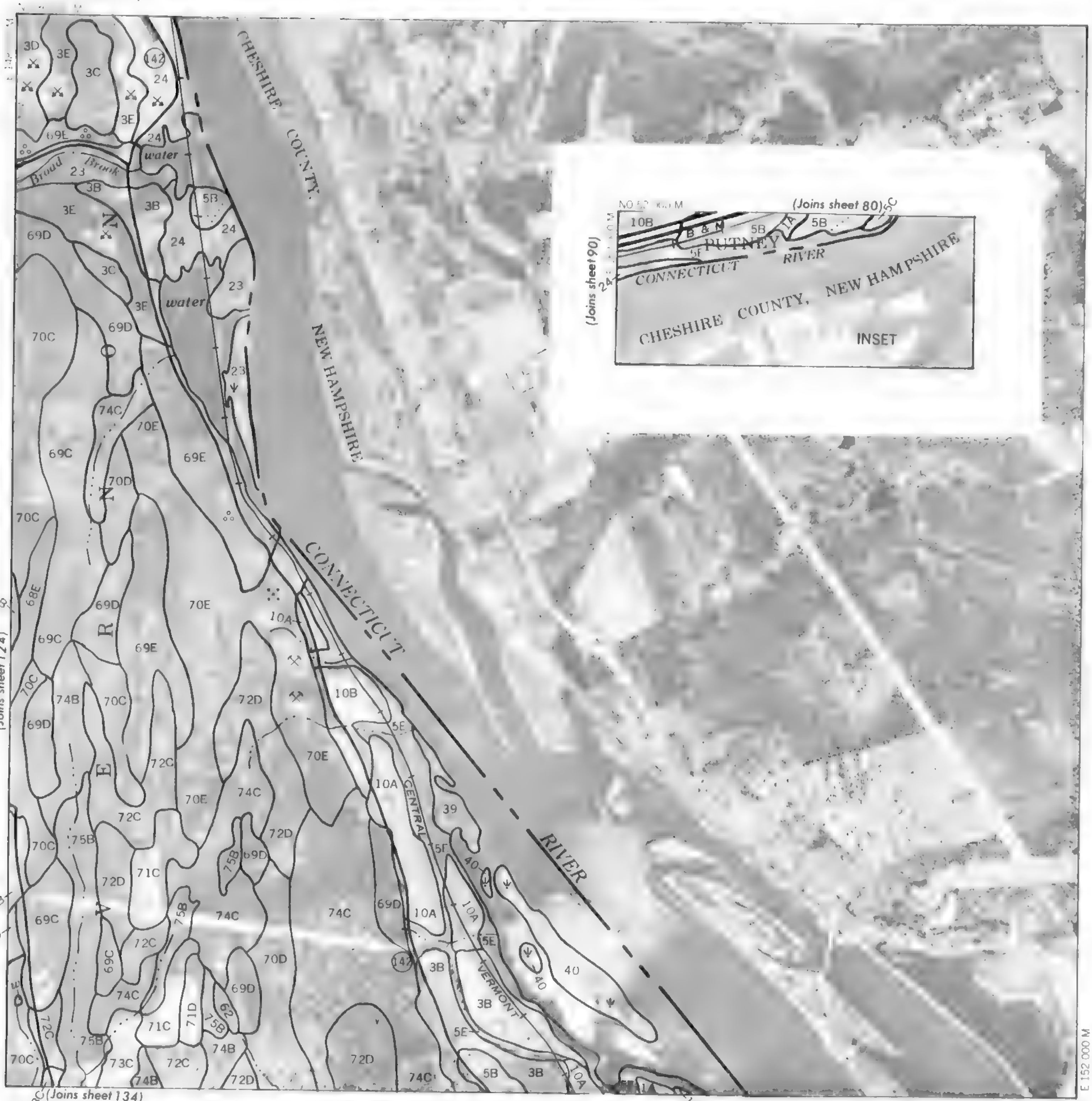


SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

(Joins sheet 116)



(Joins sheet 134)

SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

N

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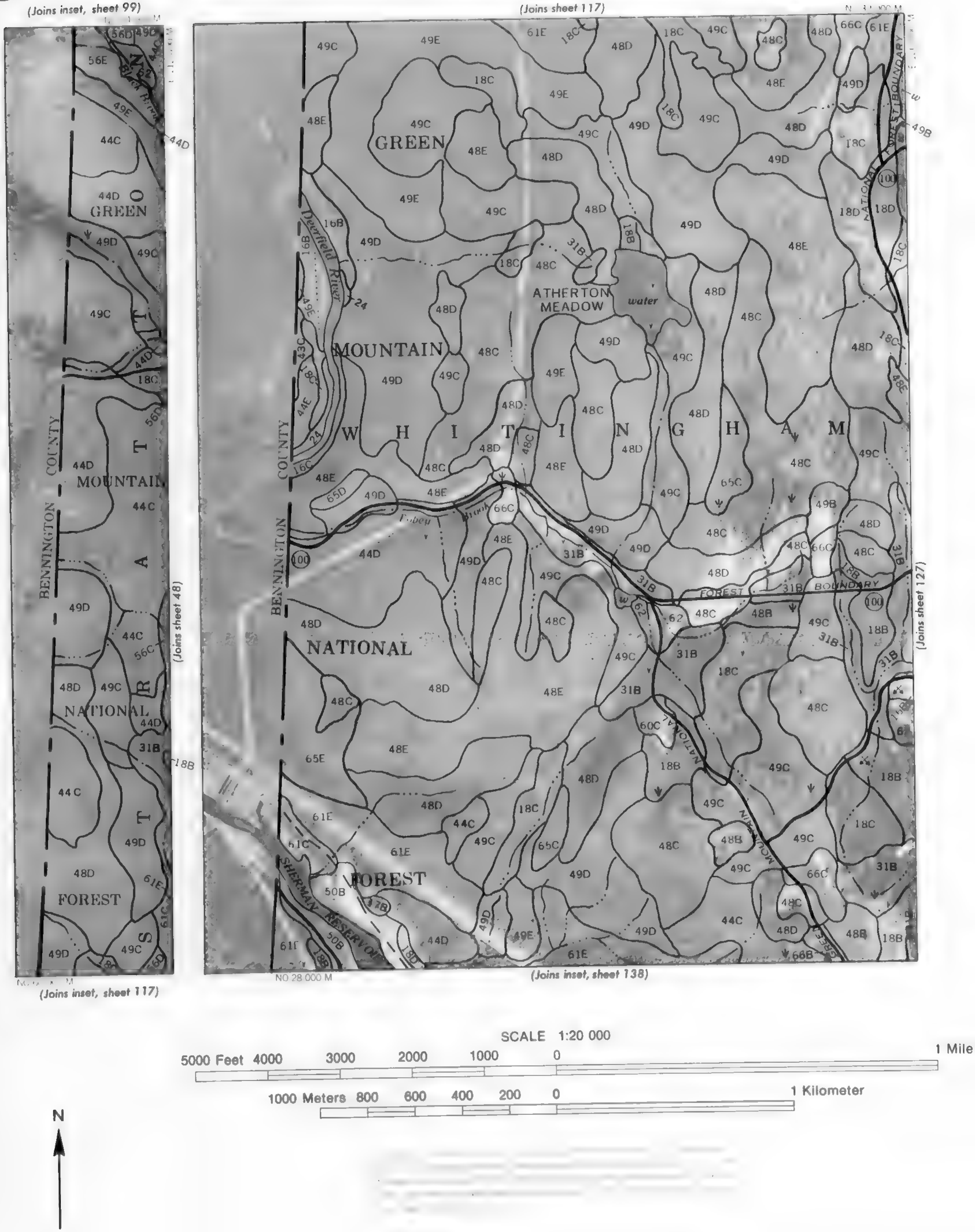
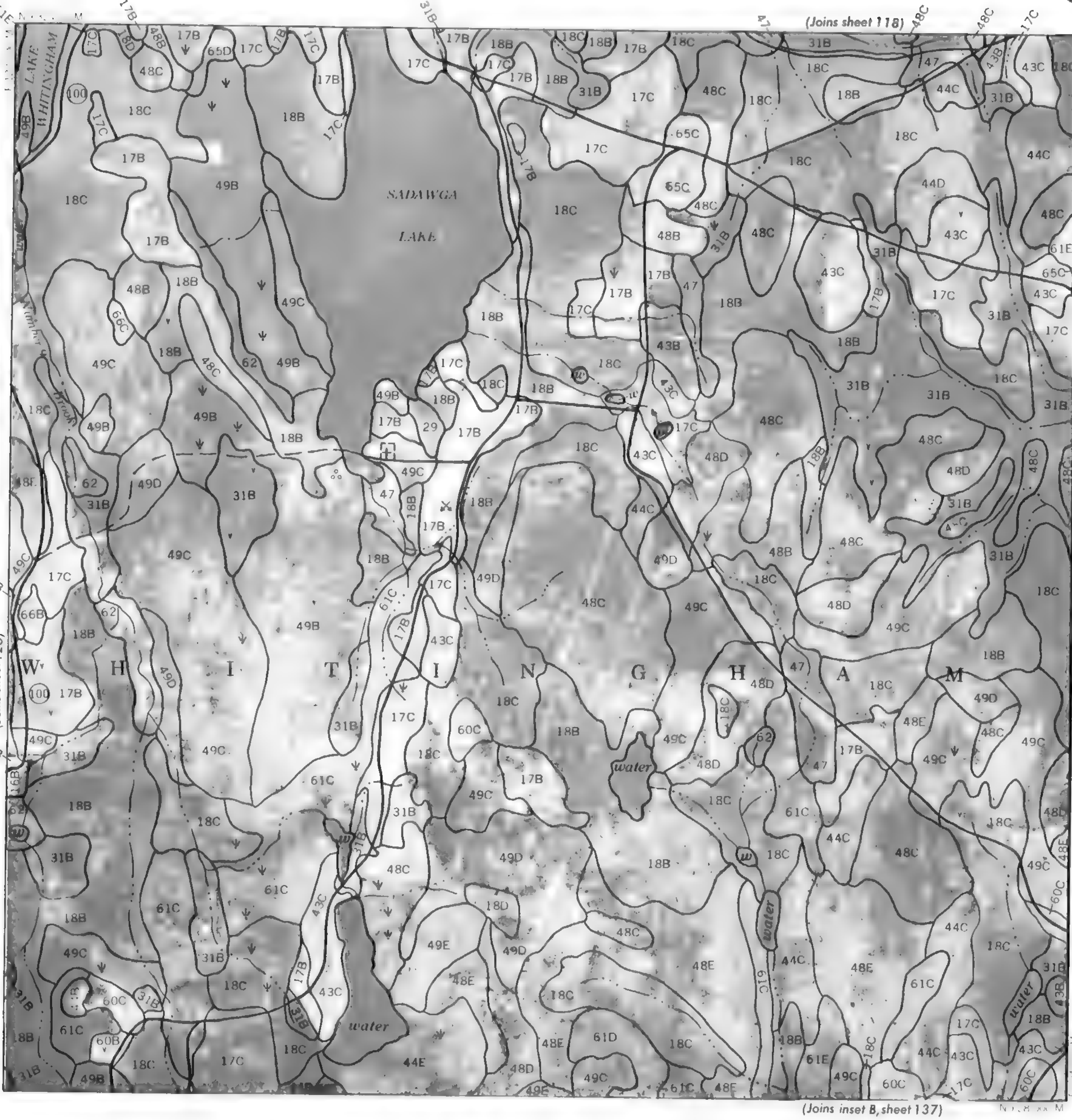

(Joins inset, sheet 99)
(Joins sheet 117)
(Joins sheet 48)
(Joins sheet 127)
(Joins inset, sheet 117)
(Joins inset, sheet 138)
NO 28 000 M
GREEN MOUNTAIN NATIONAL FOREST
BENNINGTON COUNTY
WHITINGHAM
ATHERTON MEADOW
water
Deerfield River
Black River
Sherman Reservoir
NATIONAL FOREST BOUNDARY
FOREST BOUNDARY
SCALE 1:20 000
5000 Feet 4000 3000 2000 1000 0 1 Mile
1000 Meters 800 600 400 200 0 1 Kilometer
N

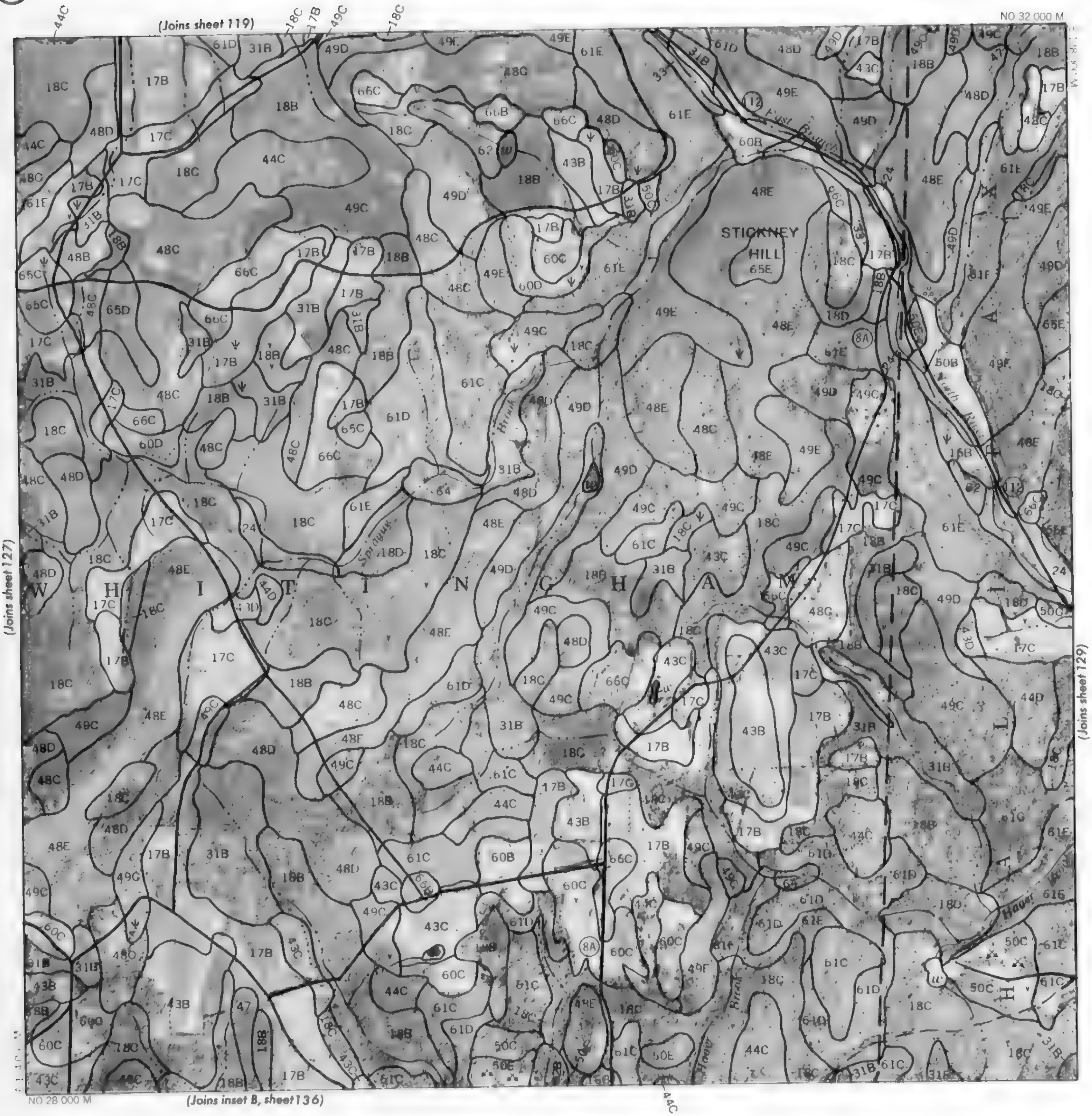


SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

N

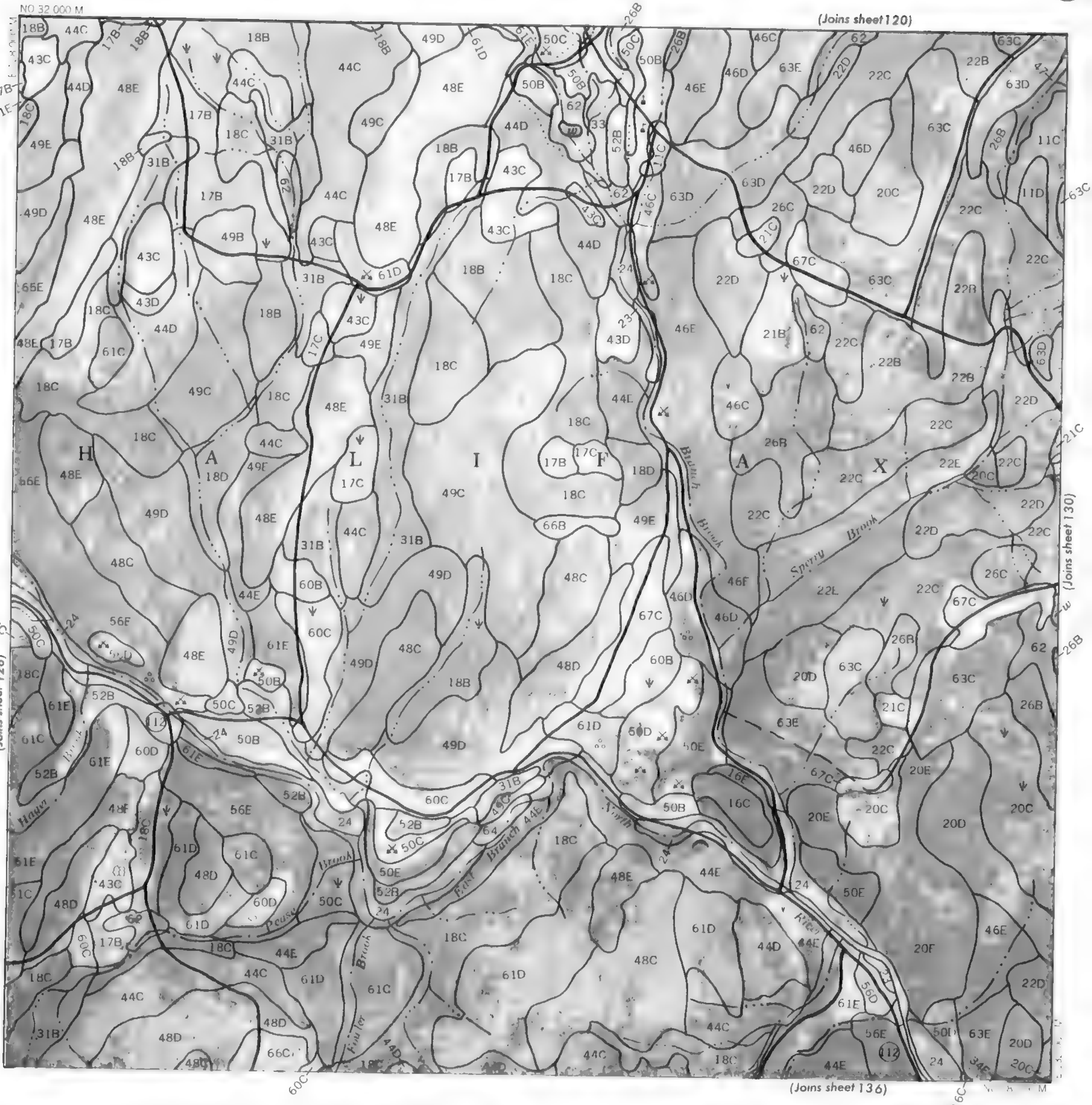


SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

N

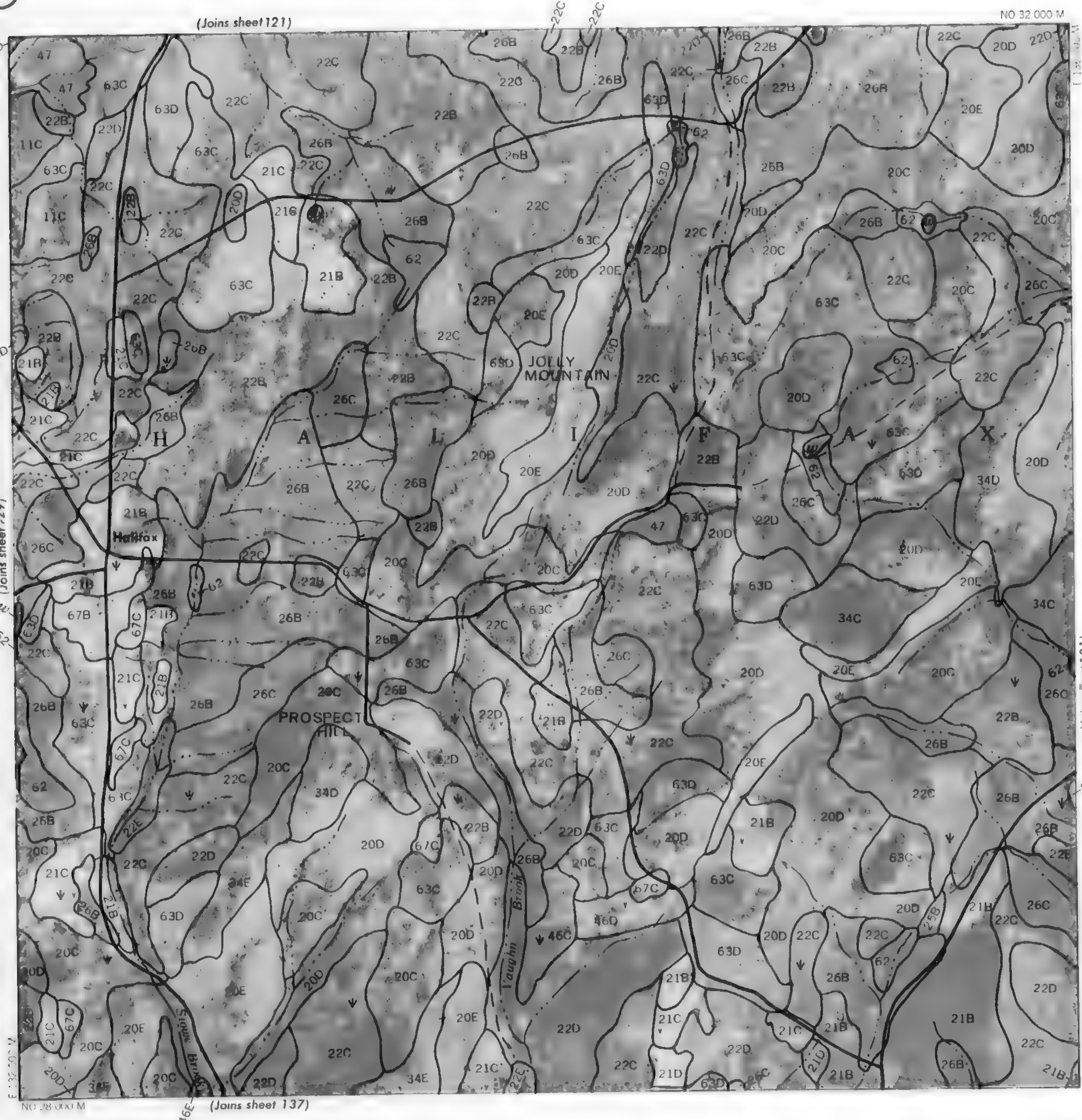


SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

N

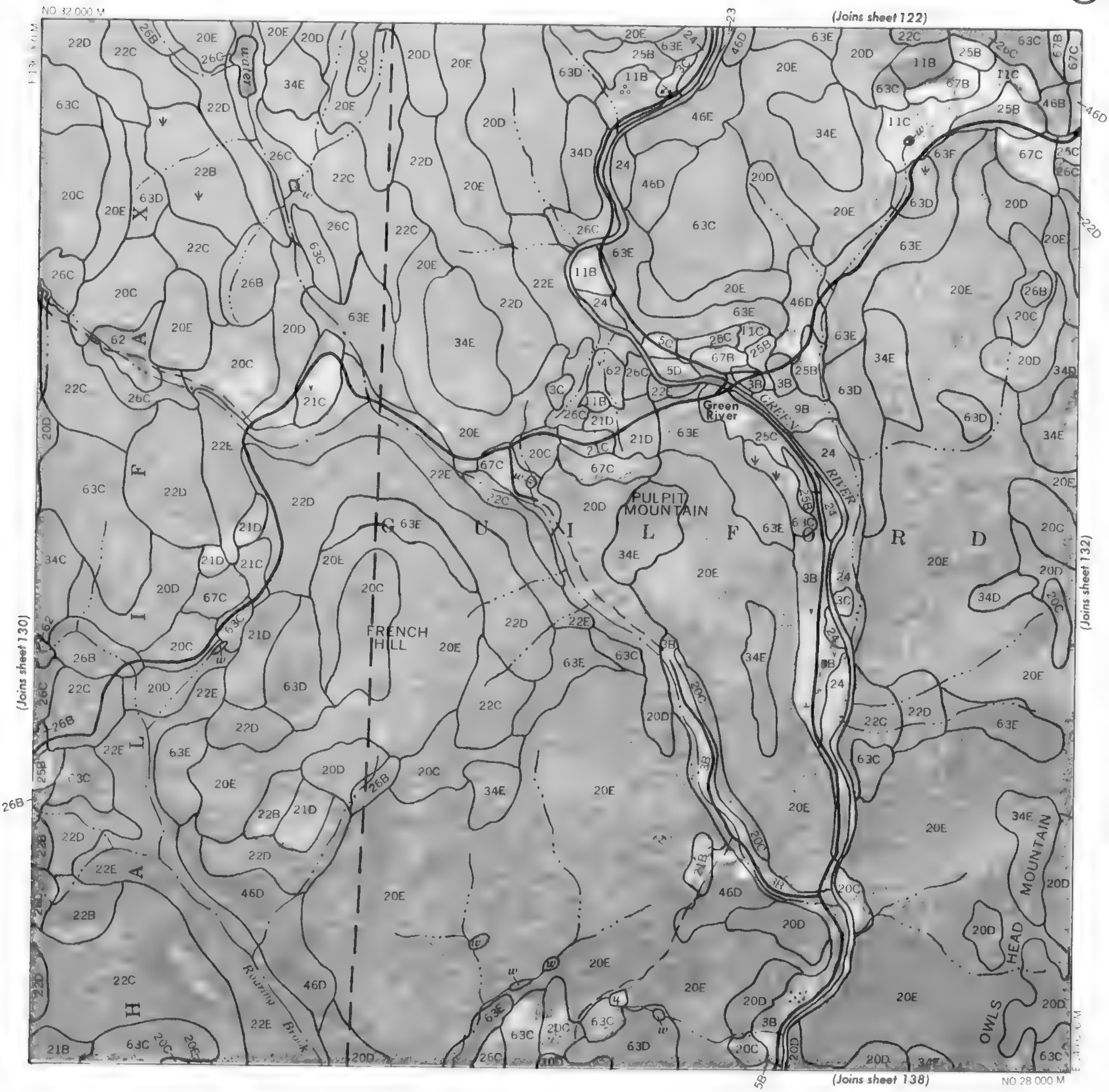


SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

N

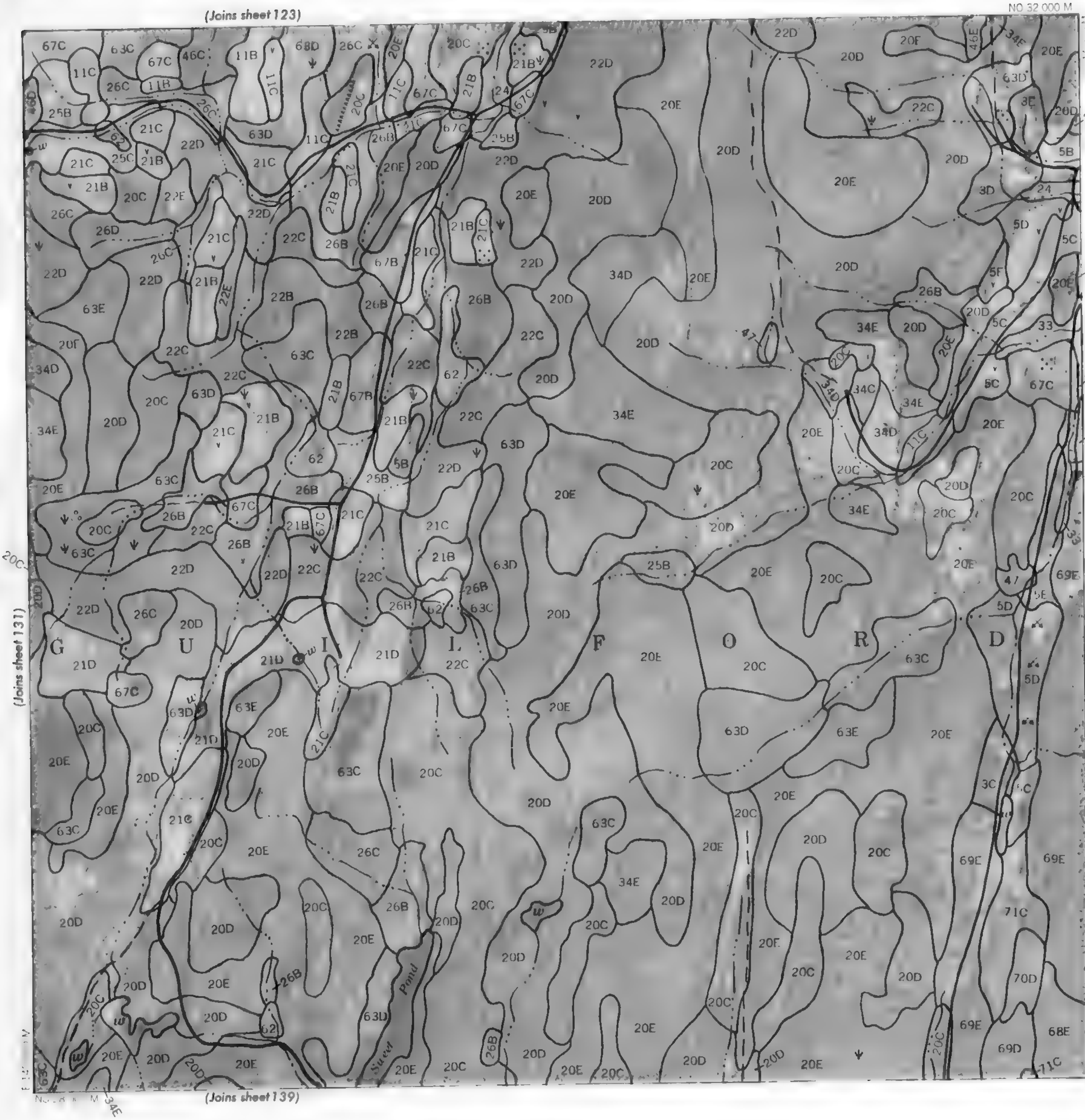


SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

N

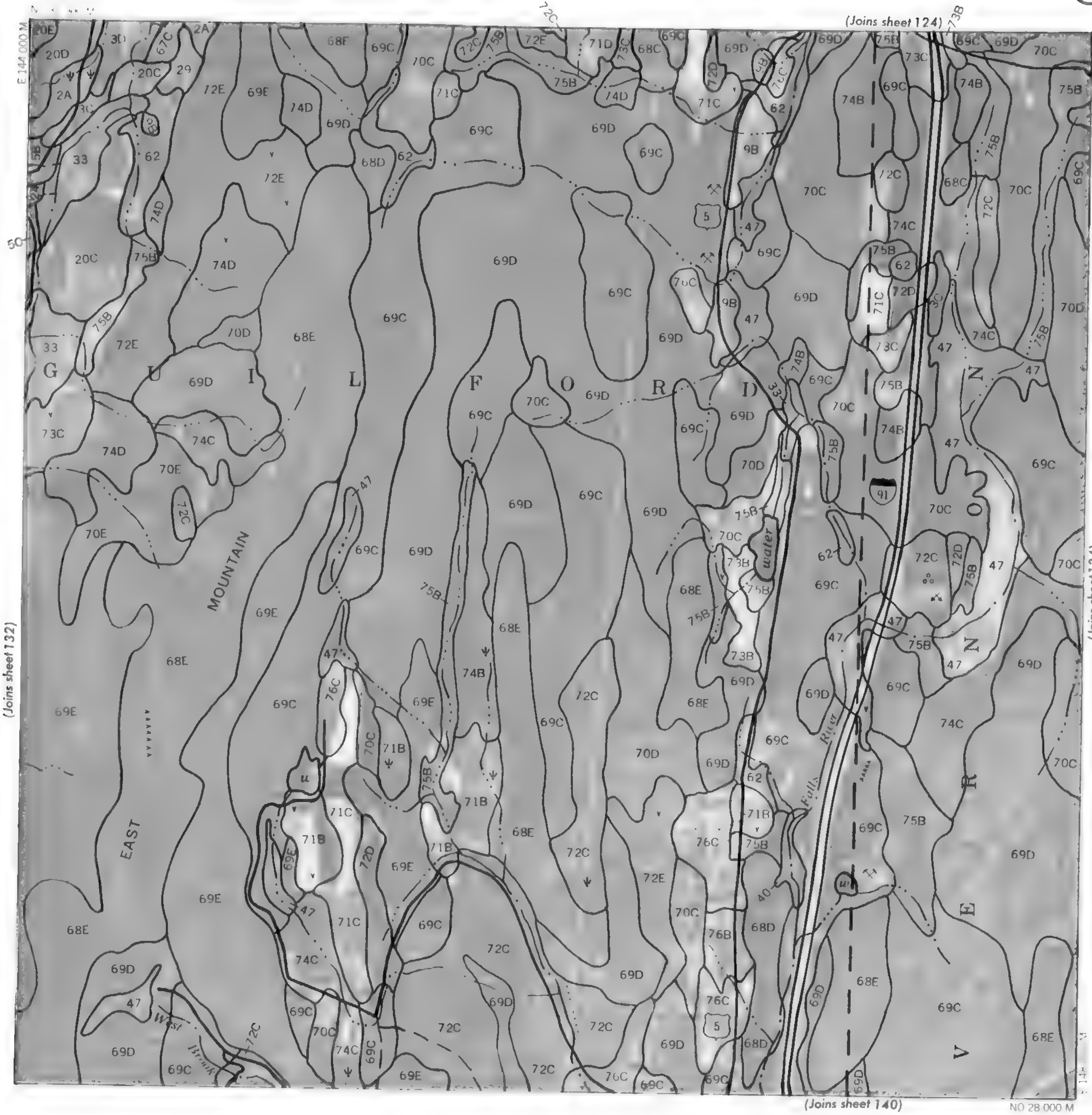


SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

N

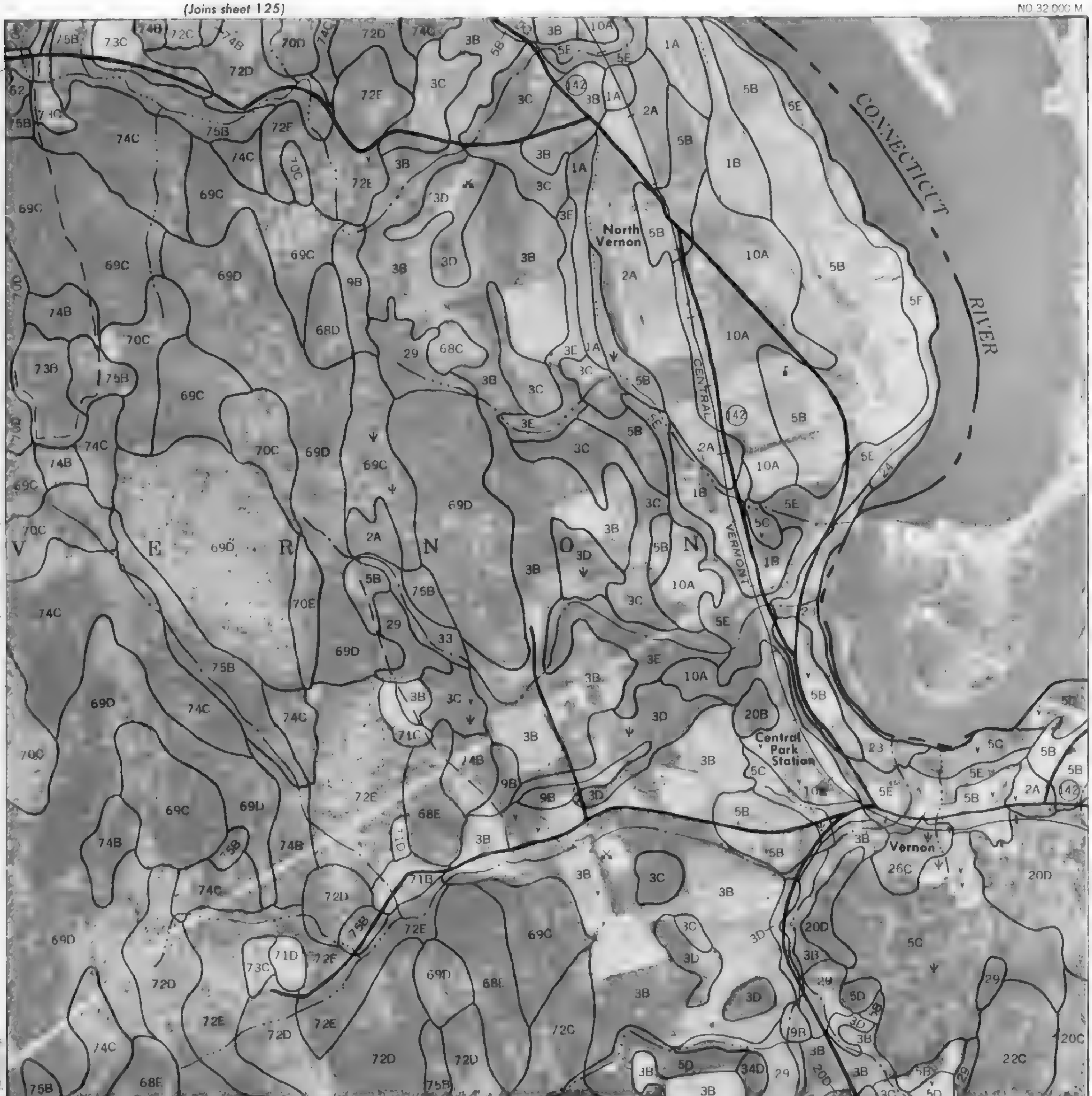


SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

N



SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

N

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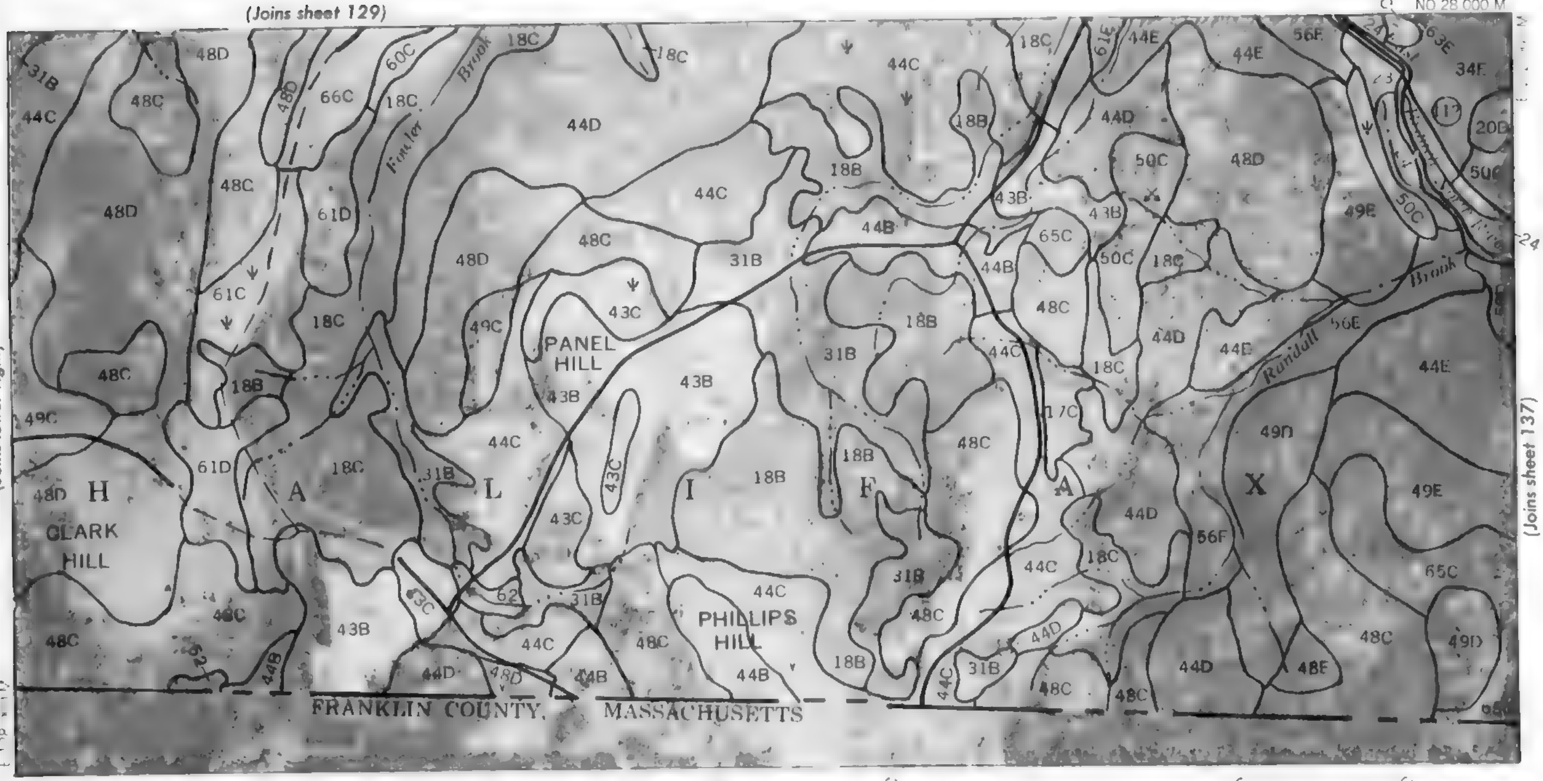
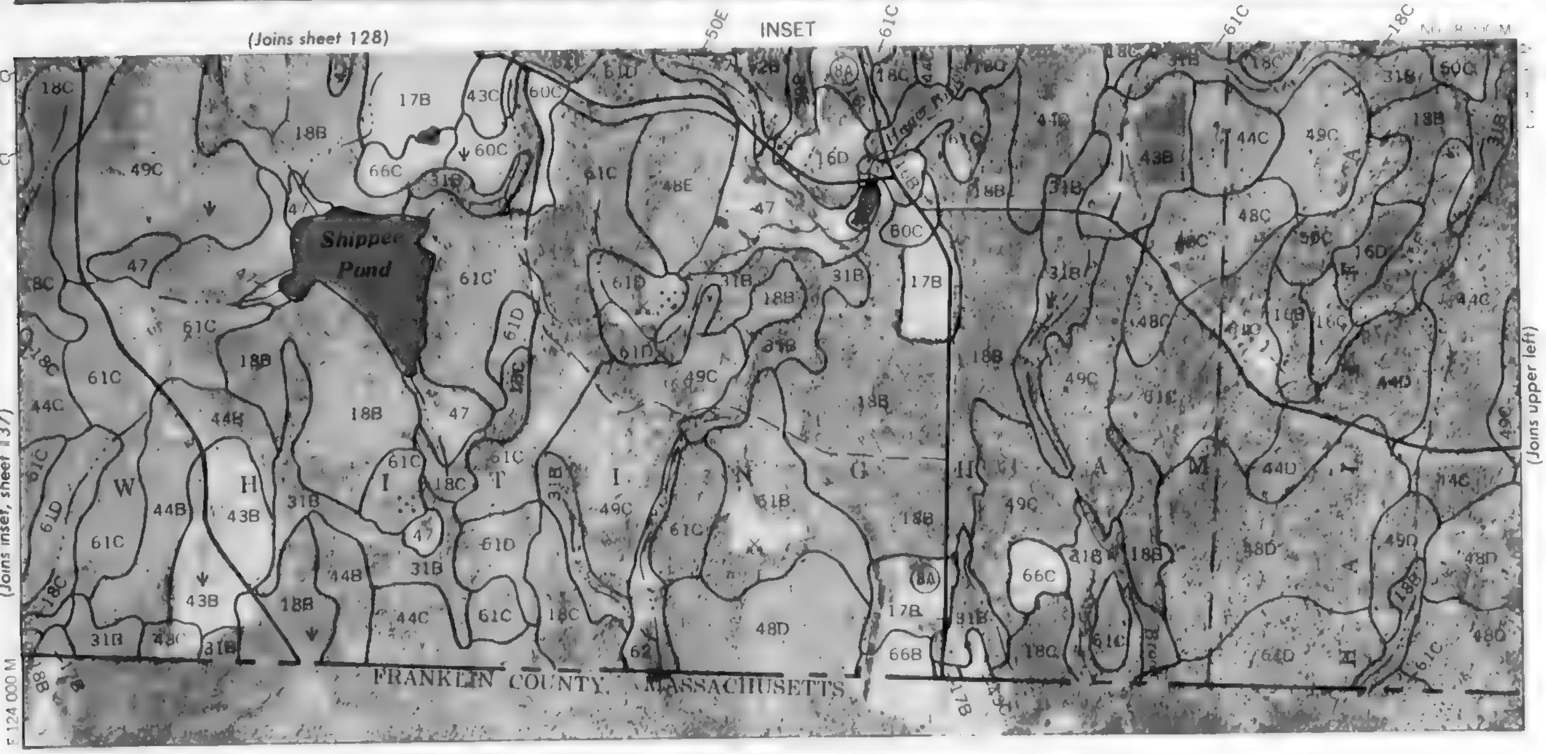




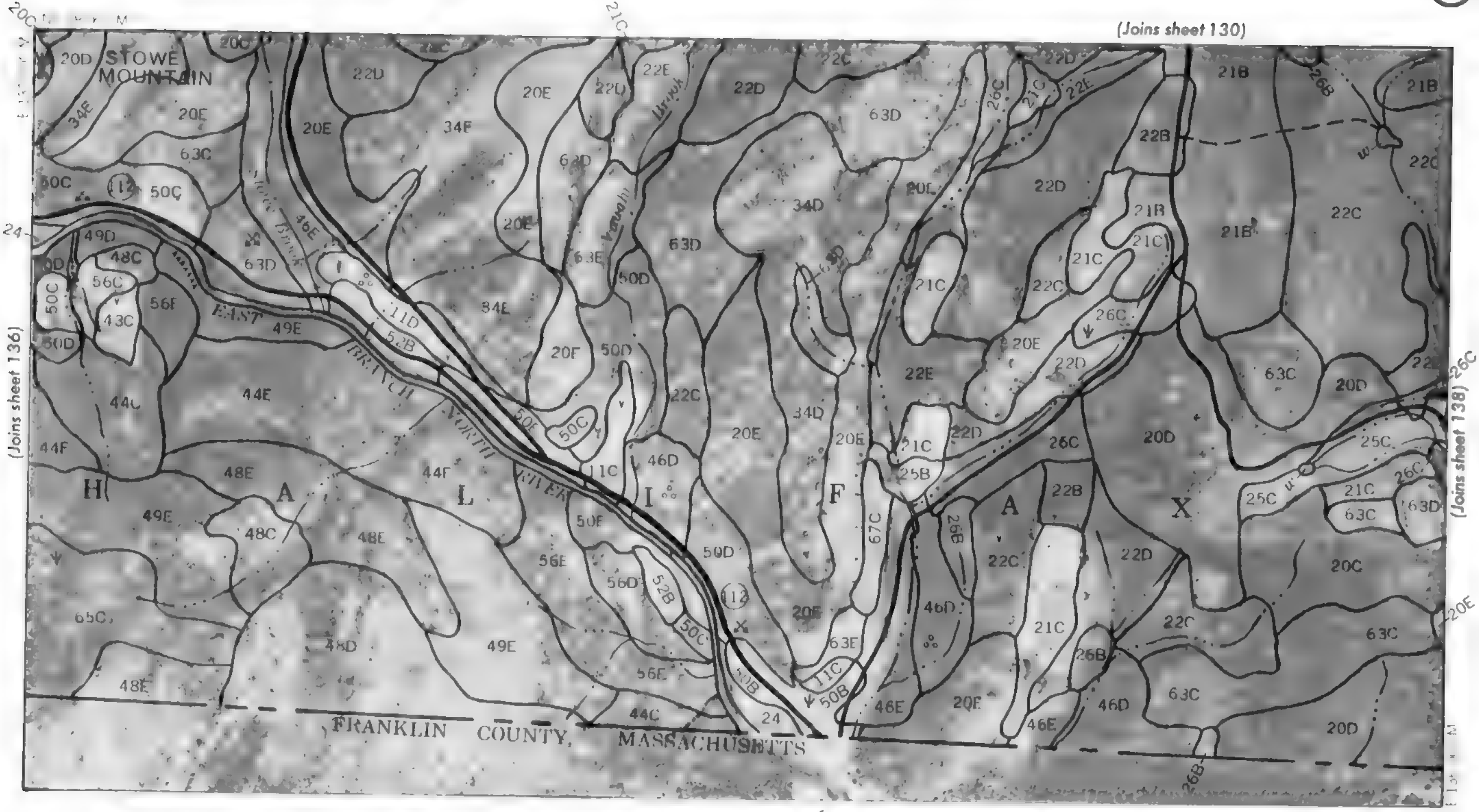
SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

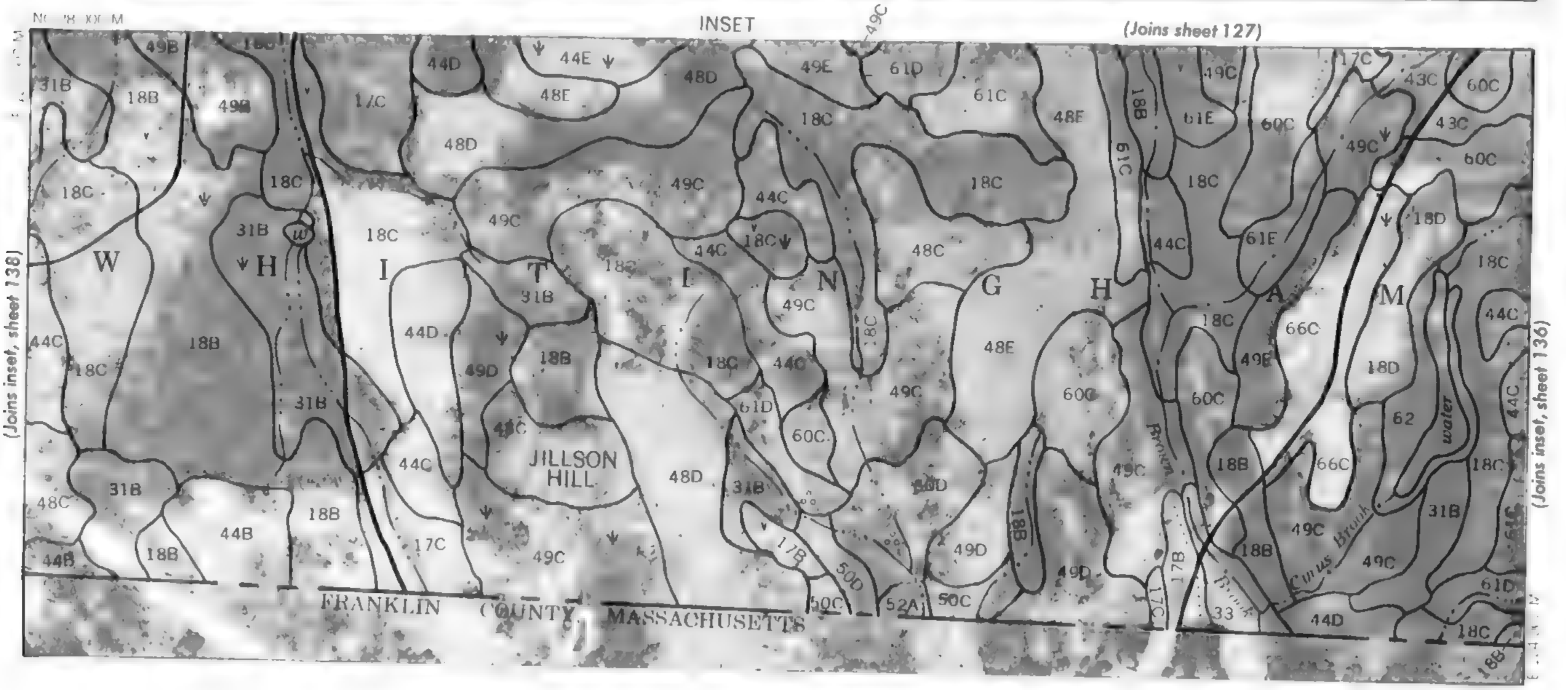
N

(Joins sheet 130)



INSET

(Joins sheet 127)

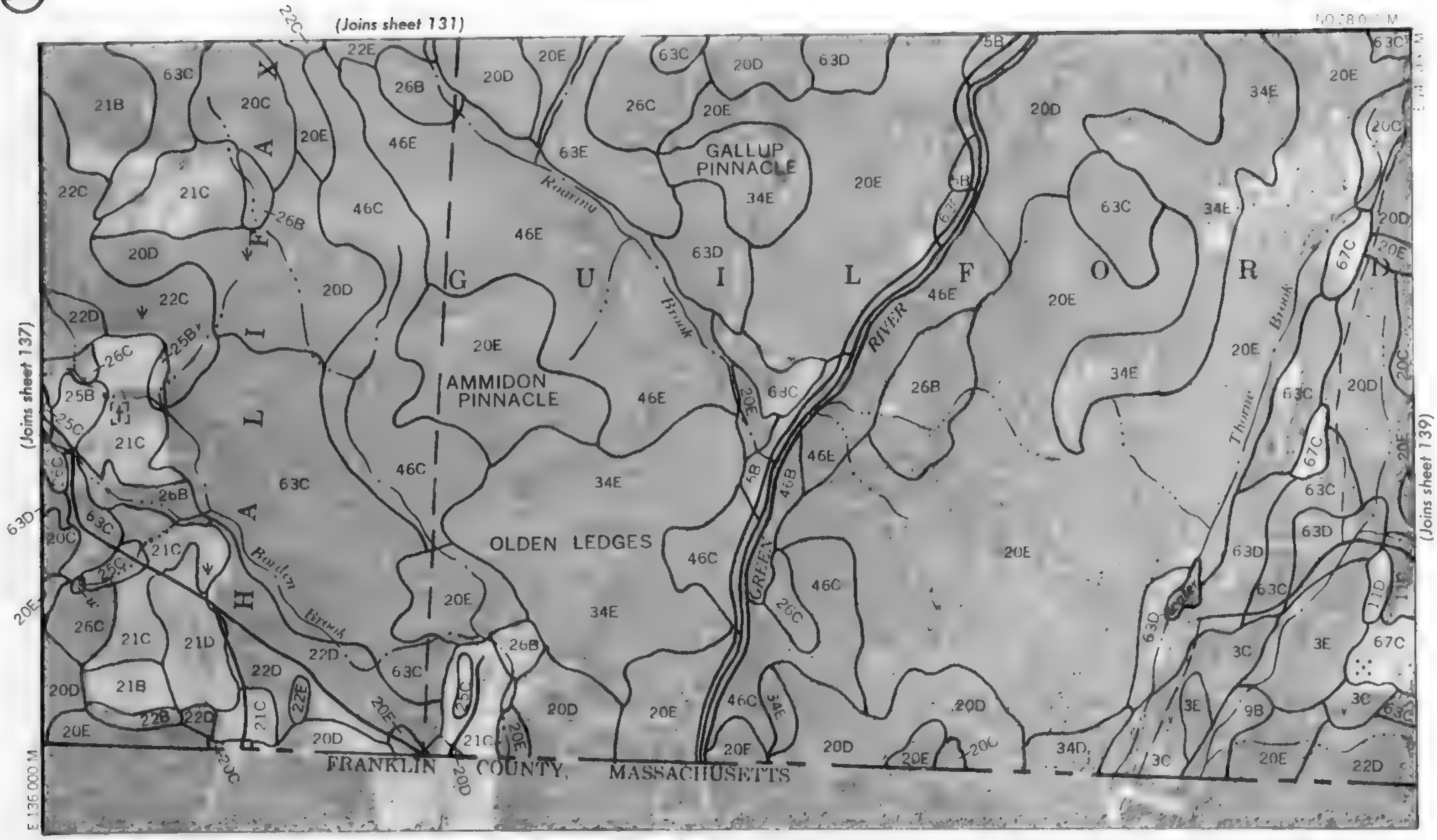


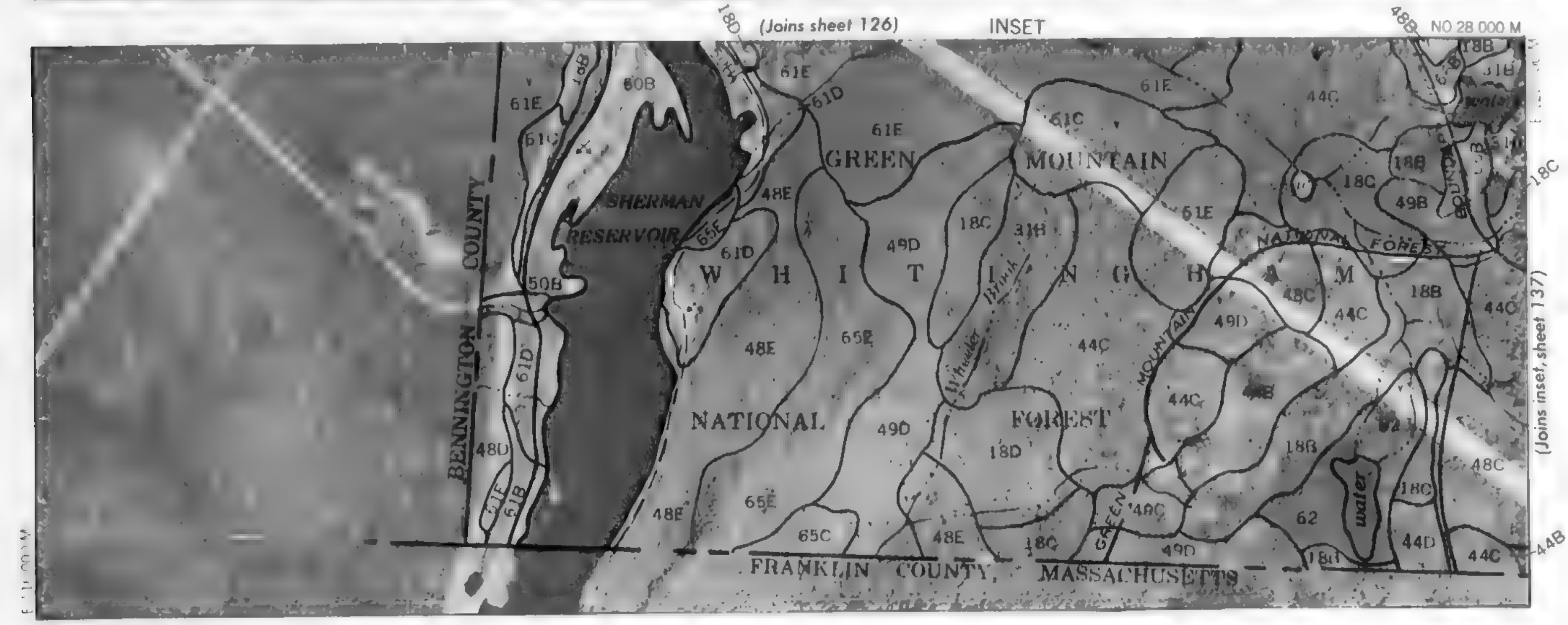
SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

N





SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

N

SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

N

The soil survey was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the Division of Property Valuation and Review, State of Vermont from 1975 aerial photography. The map sheets are divided into 4000 meter interval on the Vermont Coordinate System. The grid on the photo image is in a 500 meter interval.

SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

N

The soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the Division of Property Valuation and Review, State of Vermont from 1975 aerial photography. The map sheets are divided into a 4000 meter interval on the Vermont Coordinate System. The grid on photo image is in 500 meter interval.

SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

N

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(Joins sheet 135)

(Joins sheet 141)

SCALE 1:20 000

5000 Feet 4000 3000 2000 1000 0 1 Mile

1000 Meters 800 600 400 200 0 1 Kilometer

N

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